The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

ALGEBRA I

Wednesday, January 21, 2026 — 1:15 to 4:15 p.m., only

MODEL RESPONSE SET

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Question 25

25 Solve the equation for x:

$$14x = 3(1 + 2x) - 4x$$

$14x = 3(1+2x) - 4x$

$14x = 3 + 6x - 4x$

$14x = 3 + 2x$

$14x - 2x = 3$

$12x = 3$

$x = \frac{1}{4}$

Score 2: The student gave a complete and correct response.

Question 25

25 Solve the equation for x:

$$14x = 3(1 + 2x) - 4x$$

$14x = 3(1+2x) - 4x$

$14x = 3+6x - 4x$

$14x = 3+2x$

$-2x \quad -2x$

$\frac{12x}{12} = \frac{3}{12}$

$x = .25$

Score 2: The student gave a complete and correct response.

Question 25

25 Solve the equation for x:

$$14x = 3(1 + 2x) - 4x$$

$14x = 3+6x-4$
$-6x \quad -6x$

$8x = 3-4$

$\frac{8x}{8} = \frac{-1}{8}$

$\boxed{x = -\frac{1}{8}}$

Score 1: The student made a transcription error by writing 4 instead of $4x$.

Question 25

25 Solve the equation for x:

$$14x = 3(1 + 2x) - 4x$$

$14x = 3(1+2x) - 4x$

$14x = 3 + 6x - 4x$

$14x = 3 + 2x$

$12x = 3$

Score 1: The student did not divide by 12.

Question 25

25 Solve the equation for x:

$$14x = 3(1 + 2x) - 4x$$

$14x = 3(1+2x) - 4x$

$14x = 3 + 6x - 4x$

$14x = 3 - 2x$

$-3 \quad -3$

$\frac{11x}{-2} = \frac{-2x}{-2}$

$x = -5.5$

Score 0: The student made multiple errors.

Question 25

25 Solve the equation for x:

$$14x = 3(1 + 2x) - 4x$$

$14x = 3(1+2x) - 4x$

$14x = 3 + 6x \quad -4x \quad +4x$

$14x = 3 + 10x$

$-10 \qquad -10$

$\frac{4}{4}x = \frac{3}{4}$

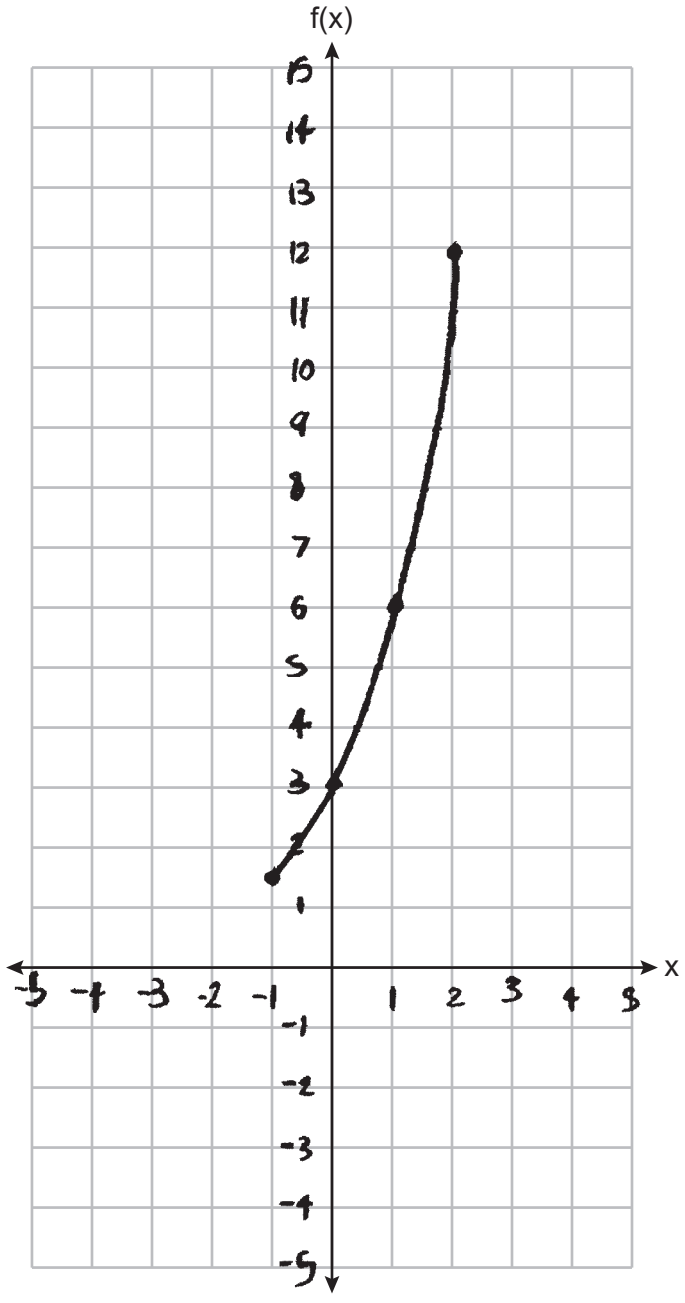
$x = 1.3$

Score 0: The student made multiple errors.

Question 26

26 Graph $f(x) = 3(2)^x$ over the interval $-1 \leq x \leq 2$.

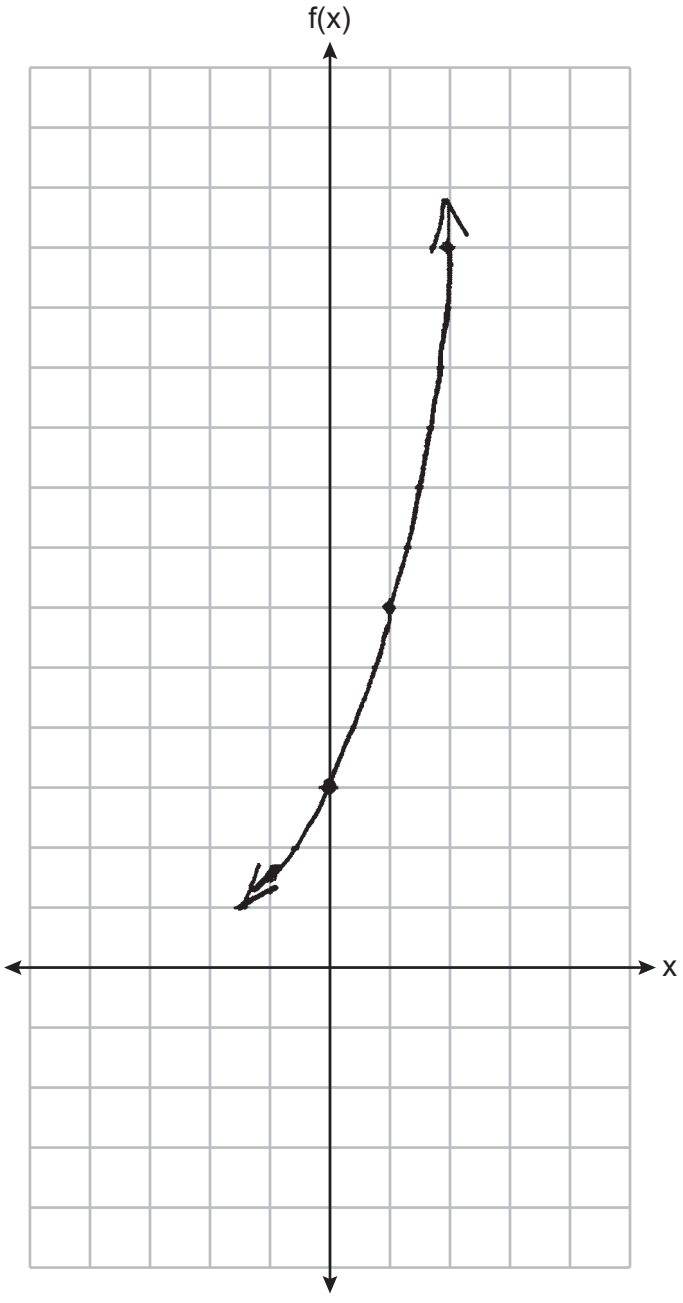
x	y
-1	1.5
0	3
1	6
2	12



Score 2: The student gave a complete and correct response.

Question 26

26 Graph $f(x) = 3(2)^x$ over the interval $-1 \leq x \leq 2$.



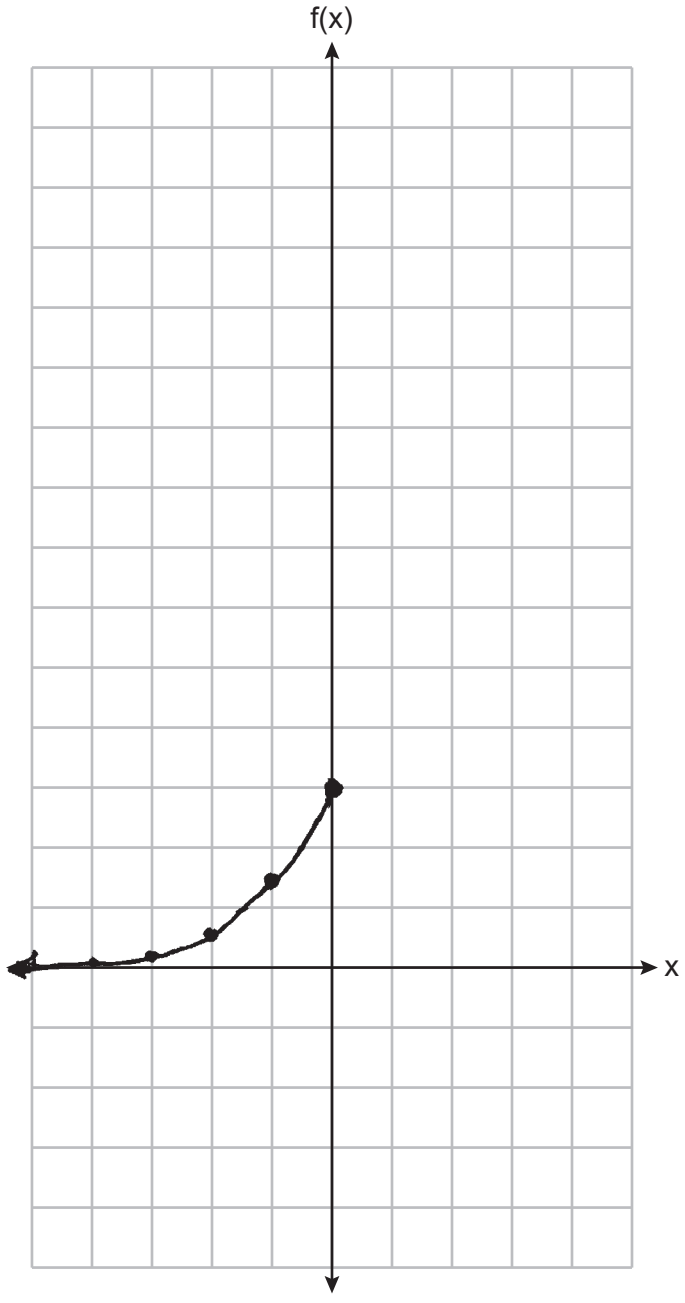
Score 1: The student did not graph $f(x)$ over the correct interval.

Question 26

26 Graph $f(x) = 3(2)^x$ over the interval $-1 \leq x \leq 2$.

$3(2)^x$

X	Y
−4	.1875
−3	.375
−2	.75
−1	1.5
0	3



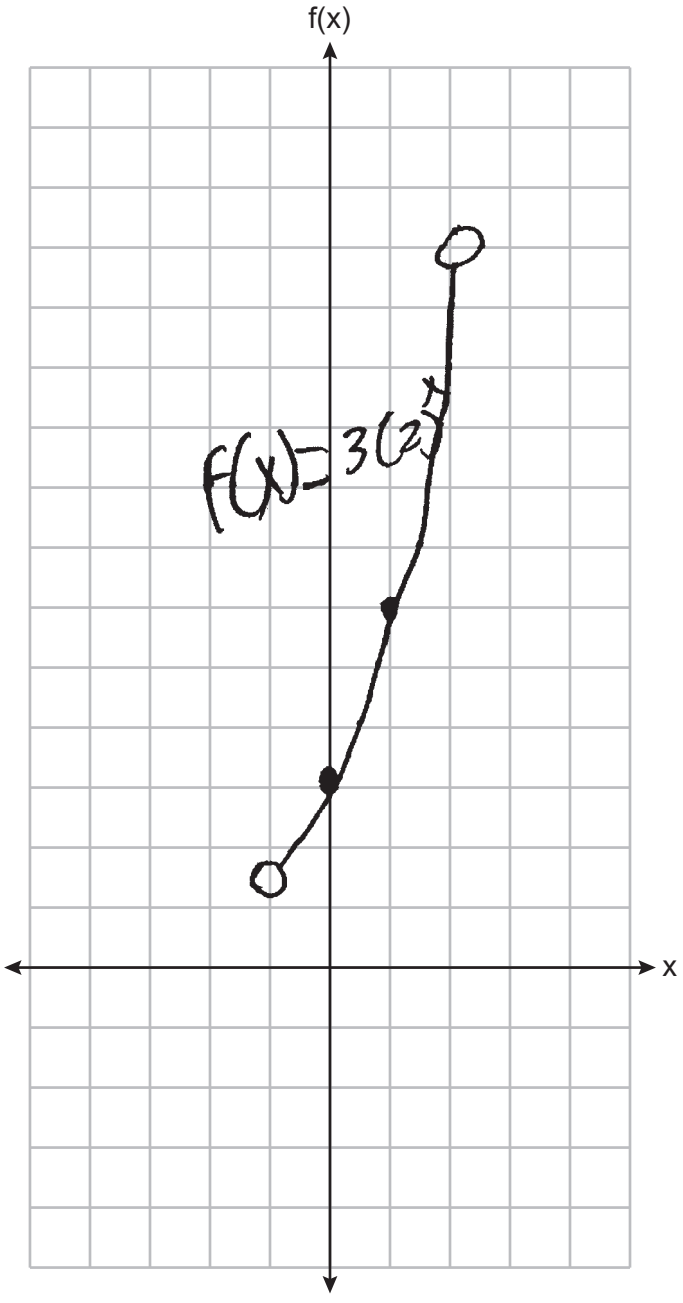
$-1 \leq x \leq 2$

X	Y

Score 1: The student did not graph $f(x)$ over the correct interval.

Question 26

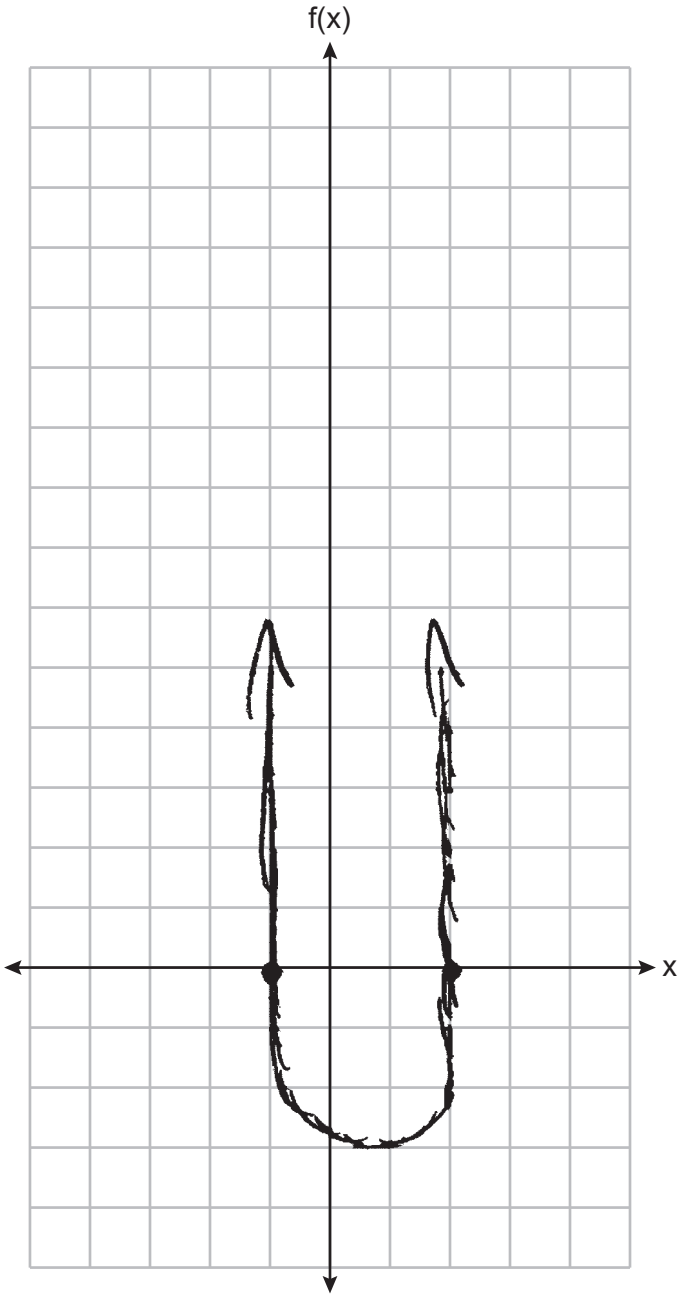
26 Graph $f(x) = 3(2)^x$ over the interval $-1 \leq x \leq 2$.



Score 1: The student did not include the endpoints.

Question 26

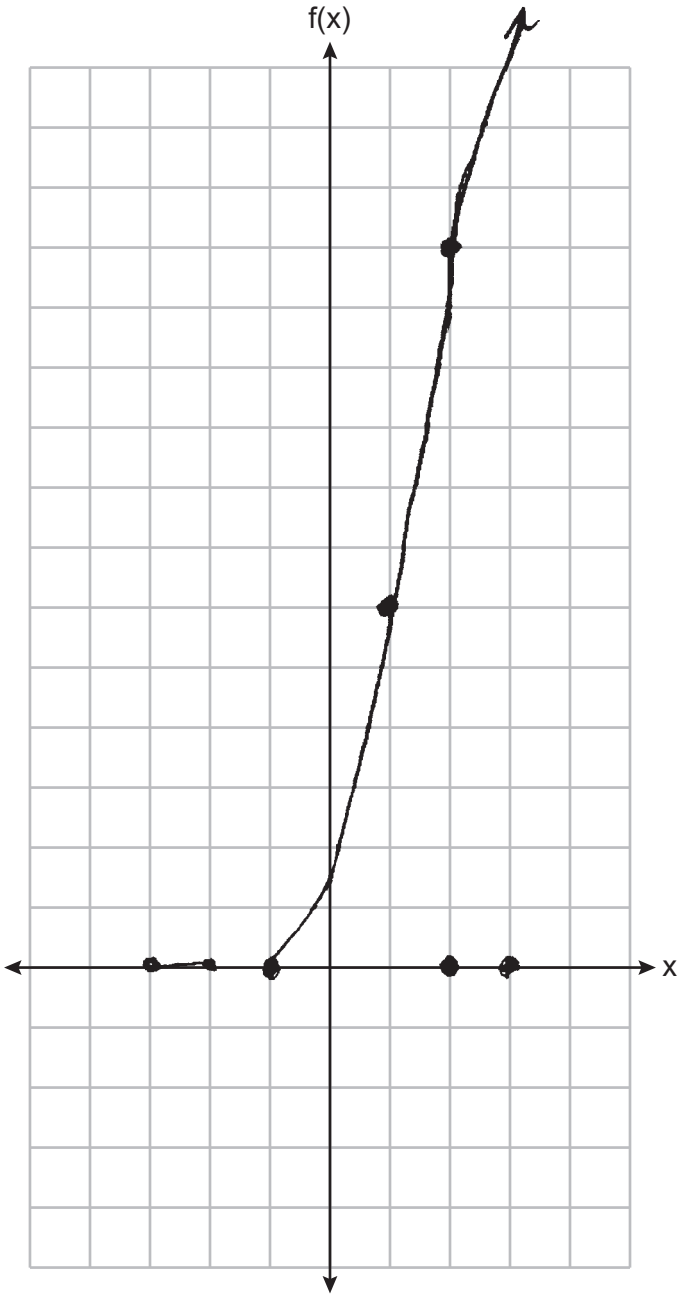
26 Graph $f(x) = 3(2)^x$ over the interval $-1 \leq x \leq 2$.



Score 0: The student did not show enough grade level work to receive any credit.

Question 26

26 Graph $f(x) = 3(2)^x$ over the interval $-1 \leq x \leq 2$.



Score 0: The student did not use the correct interval and made multiple graphing errors.

Question 27

27 Determine the product of $(2x + 3)$ and $(-6x^2 + 5x - 1)$.

Express the product in standard form.

$(2x+3)(-6x^2+5x-1)$

$-12x^3+10x^2-2x-18x^2+15x-3$

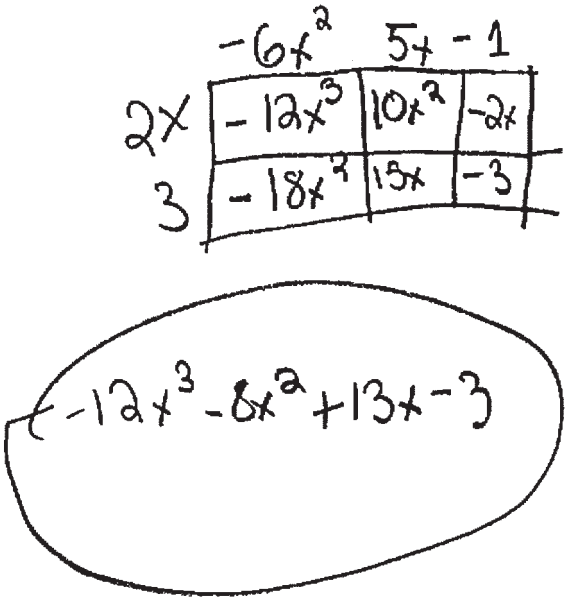
$-12x^3-8x^2+13x-3$

Score 2: The student gave a complete and correct response.

Question 27

27 Determine the product of $(2x + 3)$ and $(-6x^2 + 5x - 1)$.

Express the product in standard form.



Score 2: The student gave a complete and correct response.

Question 27

27 Determine the product of $(2x + 3)$ and $(-6x^2 + 5x - 1)$.

Express the product in standard form.

$(2x+3)(6x^2+5x-1)$

$12x^3+10x^2-2x+18x^2+15x-3$

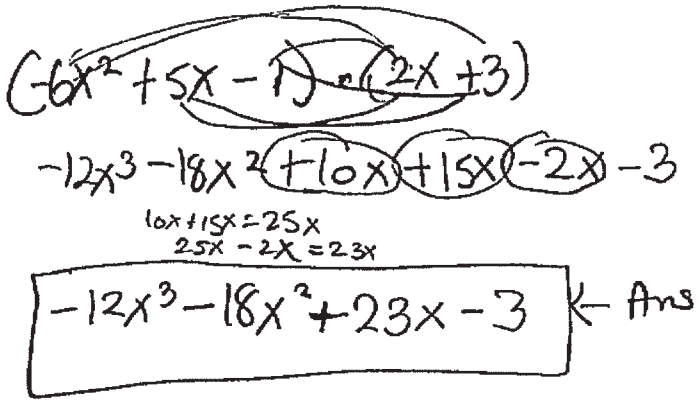
$12x^3+28x^2+13x-3$

Score 1: The student made a transcription error by using a positive $6x^2$.

Question 27

27 Determine the product of $(2x + 3)$ and $(-6x^2 + 5x - 1)$.

Express the product in standard form.

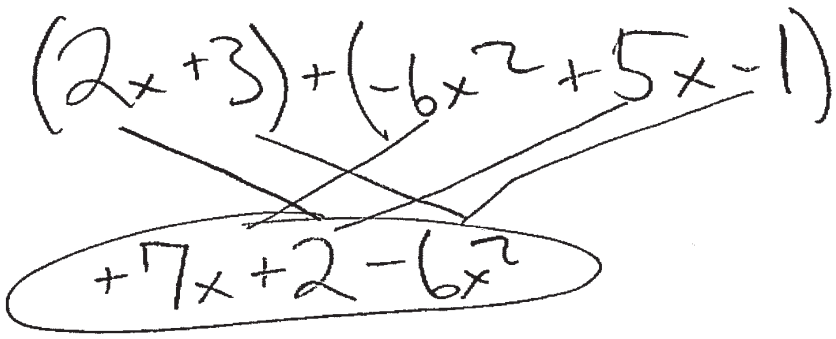


Score 1: The student made one computational error when multiplying $5x \bullet 2x$.

Question 27

27 Determine the product of $(2x + 3)$ and $(-6x^2 + 5x - 1)$.

Express the product in standard form.

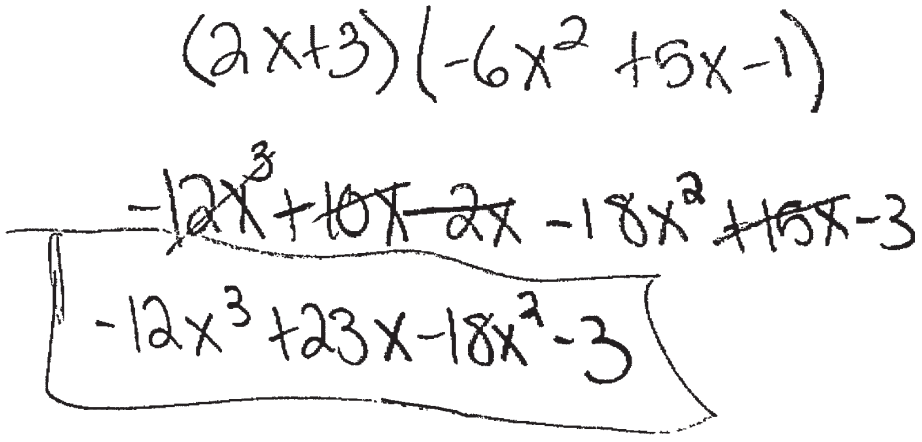


Score 0: The student found the sum instead of the product and did not write the answer in standard form.

Question 27

27 Determine the product of $(2x + 3)$ and $(-6x^2 + 5x - 1)$.

Express the product in standard form.



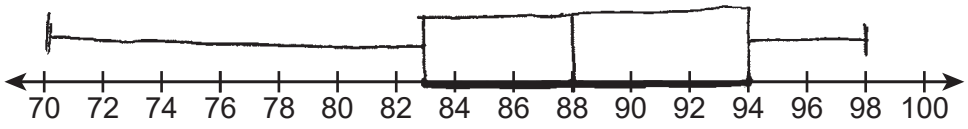
Score 0: The student made one computational error and did not write the answer in standard form.

Question 28

28 A student's test scores for the semester are listed below.

83, 87, 90, 94, 94, 93, 95, 70, 72, 83, 85, 88, 98

Construct a box plot for this data set, using the number line below.



Student Test Scores

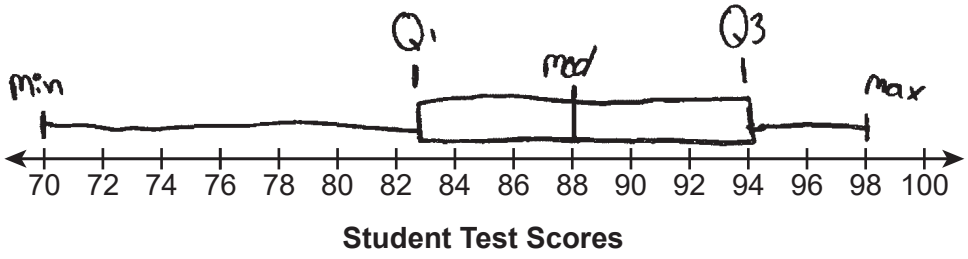
Score 2: The student gave a complete and correct response.

Question 28

28 A student's test scores for the semester are listed below.

83, 87, 90, 94, 94, 93, 95, 70, 72, 83, 85, 88, 98

Construct a box plot for this data set, using the number line below.



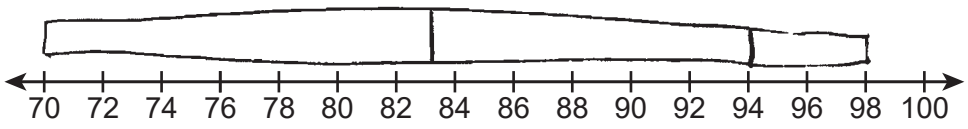
Score 2: The student gave a complete and correct response.

Question 28

28 A student's test scores for the semester are listed below.

83, 87, 90, 94, 94, 93, 95, 70, 72, 83, 85, 88, 98

Construct a box plot for this data set, using the number line below.



Student Test Scores

Q1 = 83
median = 88
Q3 = 94
minimum = 70
maximum = 98

Score 1: The student wrote the correct five number summary.

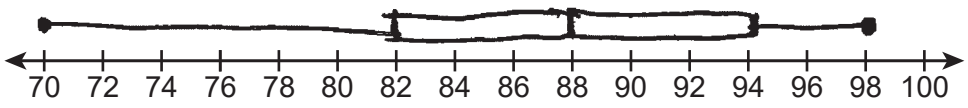
Question 28

28 A student's test scores for the semester are listed below.

83, 87, 90, 94, 94, 93, 95, 70, 72, 83, 85, 88, 98

70, 72, 83, 83, 85, 87, 88, 90, 93, 94, 94, 95, 98

Construct a box plot for this data set, using the number line below.



Student Test Scores

Score 1: The student used the wrong Q_1.

Question 28

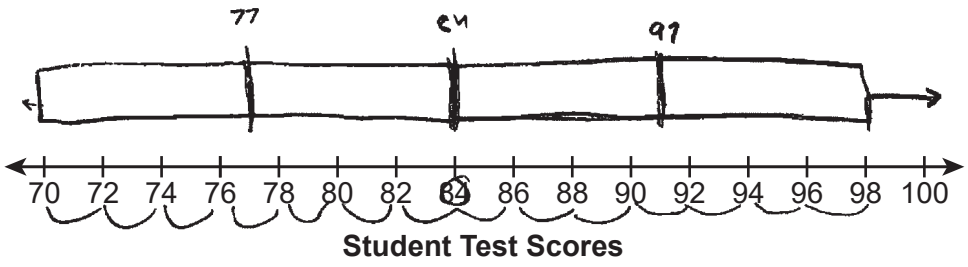
28 A student's test scores for the semester are listed below.

~~83, 87, 80, 94, 94, 98, 85,~~ 70, ~~72, 83, 85,~~ 88, 98

70, 72, 83, 83, 85, 87, 88, 90, 93, 94, 94, 95, 98

1 2 3 4 5 6 7 8 9

Construct a box plot for this data set, using the number line below.



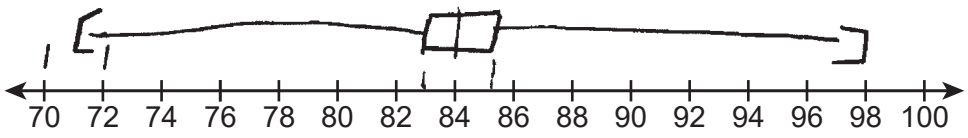
Score 0: The student did not show enough grade level work to receive any credit.

Question 28

28 A student's test scores for the semester are listed below.

83, 87, 90, 94, 94, 93, 95, 70, 72, 83, 85, 88, 98

Construct a box plot for this data set, using the number line below.



Student Test Scores

Score 0: The student did not show enough grade level work to receive any credit.

Question 29

29 Write an equation, in slope-intercept form, of a line that passes through the point (6, 3) and has a slope of $\frac{2}{3}$.

$3 = \frac{2}{3}(6) + b$

$3 = 4 + b$

$-4 \quad -4$

$b = -1$

$y = mx + b$

$y = \frac{2}{3}x - 1$

Score 2: The student gave a complete and correct response.

Question 29

29 Write an equation, in slope-intercept form, of a line that passes through the point (6, 3) and has a slope of $\frac{2}{3}$.

$y = mx + b$

$y - y_1 = m(x - x_1)$

$y - (3) = \frac{2}{3}(x - (6))$

$y - 3 = \frac{2}{3}(x - 6)$

$y - 3 + 3 = \frac{2}{3}x - \frac{4}{+3}$

$y = \frac{2}{3}x - 1$

Score 2: The student gave a complete and correct response.

Question 29

29 Write an equation, in slope-intercept form, of a line that passes through the point (6, 3) and has a slope of $\frac{2}{3}$.

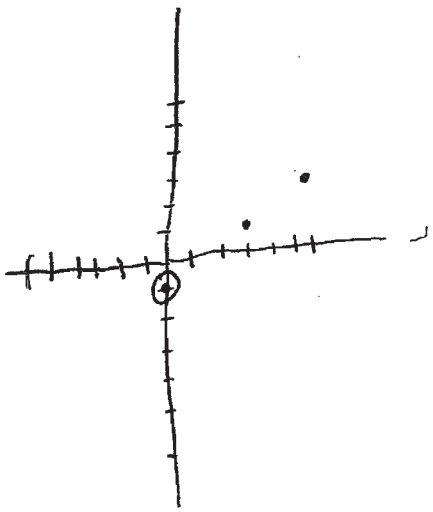
$\frac{\Delta y}{\Delta x}$

$y = \frac{2}{3}x - 1$

$m = \frac{2}{3}$

$b = -1$

$(0, -1)$



Score 2: The student gave a complete and correct response.

Question 29

29 Write an equation, in slope-intercept form, of a line that passes through the point (6, 3) and has a slope of $\frac{2}{3}$.

$y = mx + b$

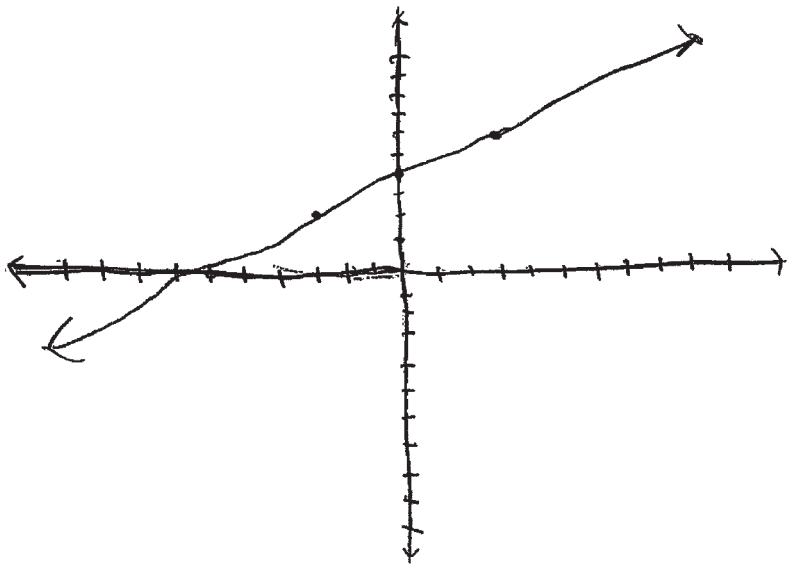
$y = \frac{2}{3}x - 1$

Score 1: The student did not show any work.

Question 29

29 Write an equation, in slope-intercept form, of a line that passes through the point (6, 3) and has a slope of $\frac{2}{3}$.

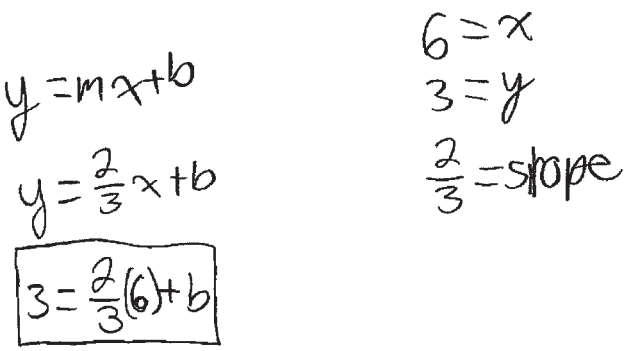
$y = \frac{2}{3}x + 4$



Score 1: The student graphed (3, 6) instead of (6, 3).

Question 29

29 Write an equation, in slope-intercept form, of a line that passes through the point (6, 3) and has a slope of $\frac{2}{3}$.



Score 0: The student made a correct substitution into $y = mx + b$, but did not find $b = -1$.

Question 29

29 Write an equation, in slope-intercept form, of a line that passes through the point (6, 3) and has a slope of $\frac{2}{3}$.

x_1 y_1
$(6, 3)$
x_2 y_2
$(9, 5)$

$y - y_1 = m(x - x_1) + y_1$
$+y_1$

$5 - 3 = \frac{2}{3}(9 - 6)$

$= 2$

Score 0: The student did not show enough correct work to receive any credit.

Question 30

30 Abby has $20 to spend at a community festival. She uses $8.50 to purchase food coupons for popcorn, a hot dog, and a soda.

She can buy individual ride tickets for $2.25 each. Determine algebraically the maximum number of ride tickets Abby can buy.

Let x : tickets

$8.50 + 2.25x \leq 20$

$-8.50 \qquad -8.50$

$2.25x \leq 11.5$

$\frac{2.25}{2.25}$

$x \leq 5.1$

She can buy 5 tickets

Score 2: The student gave a complete and correct response.

Question 30

30 Abby has $20 to spend at a community festival. She uses $8.50 to purchase food coupons for popcorn, a hot dog, and a soda.

She can buy individual ride tickets for $2.25 each. Determine algebraically the maximum number of ride tickets Abby can buy.

$\frac{11.5}{2.25} \geq \frac{2.25x}{2.25}$

$5.11 \geq x$

She can buy a maximum of 5 tickets

Score 2: The student gave a complete and correct response.

Question 30

30 Abby has \$20 to spend at a community festival. She uses \$8.50 to purchase food coupons for popcorn, a hot dog, and a soda.

She can buy individual ride tickets for \$2.25 each. Determine algebraically the maximum number of ride tickets Abby can buy.

$2.25x + 8.5 \geq 20$

$-8.5 \quad -8.5$

$2.25x \geq 11.5$

$\frac{2.25x}{2.25} \geq \frac{11.5}{2.25}$

$x = 5.\overline{111}$

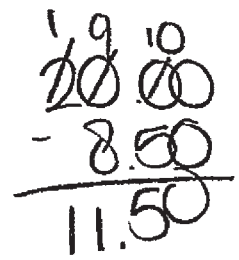
She can buy 5 tickets

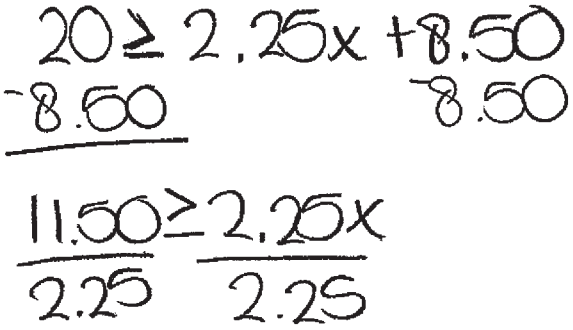
Score 2: The student gave a complete and correct response.

Question 30

30 Abby has $20 to spend at a community festival. She uses $8.50 to purchase food coupons for popcorn, a hot dog, and a soda.

She can buy individual ride tickets for $2.25 each. Determine algebraically the maximum number of ride tickets Abby can buy.





Score 1: The student wrote a correct inequality.

Question 30

30 Abby has $20 to spend at a community festival. She uses $8.50 to purchase food coupons for popcorn, a hot dog, and a soda.

She can buy individual ride tickets for $2.25 each. Determine algebraically the maximum number of ride tickets Abby can buy.

$$20 - 8.50 = 11.5$$

$$\frac{11.5}{2.25} = 5.\overline{111}$$

She can buy 5 tickets.

Score 1: The student did not solve the problem algebraically.

Question 30

30 Abby has $20 to spend at a community festival. She uses $8.50 to purchase food coupons for popcorn, a hot dog, and a soda.

She can buy individual ride tickets for $2.25 each. Determine algebraically the maximum number of ride tickets Abby can buy.

$20 \geq 2.25x - 8.50$

$28.50 \geq 2.25x$

$12.\overline{6} \geq x$

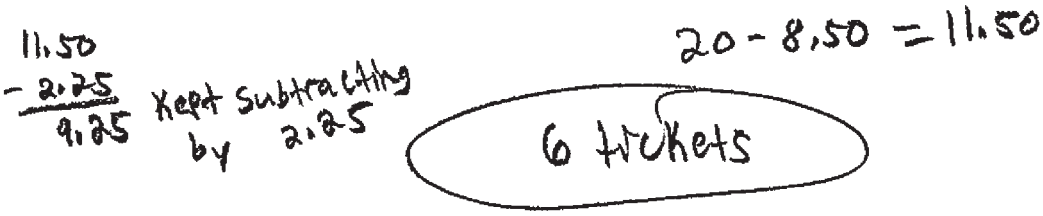
12 rides

Score 1: The student wrote an incorrect inequality, but solved it appropriately.

Question 30

30 Abby has $20 to spend at a community festival. She uses $8.50 to purchase food coupons for popcorn, a hot dog, and a soda.

She can buy individual ride tickets for $2.25 each. Determine algebraically the maximum number of ride tickets Abby can buy.

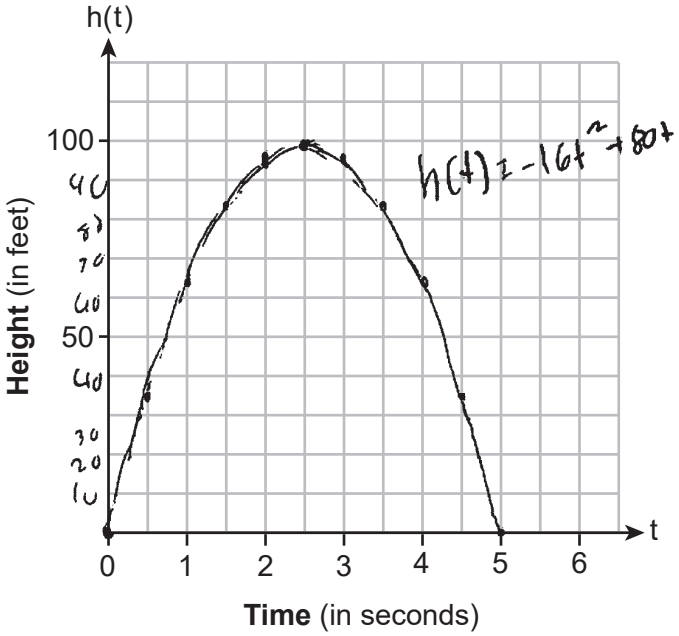


Score 0: The student did not show enough correct work to receive any credit.

Question 31

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.



State how many seconds it will take for the rocket to reach its maximum height.

2.5 seconds

State the maximum height, in feet, of the rocket.

100 ft.

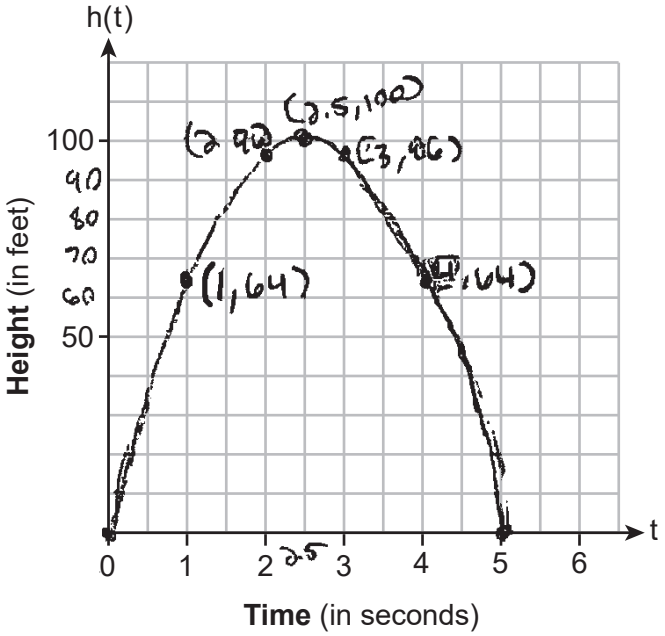
Score 4: The student gave a complete and correct response.

Question 31

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.

t	h(t)
0	0
1	64
2	96
2.5	100
3	96
4	64
5	0



State how many seconds it will take for the rocket to reach its maximum height.

It will take 2.5 seconds for the rocket to reach its max height of 100 feet.

State the maximum height, in feet, of the rocket.

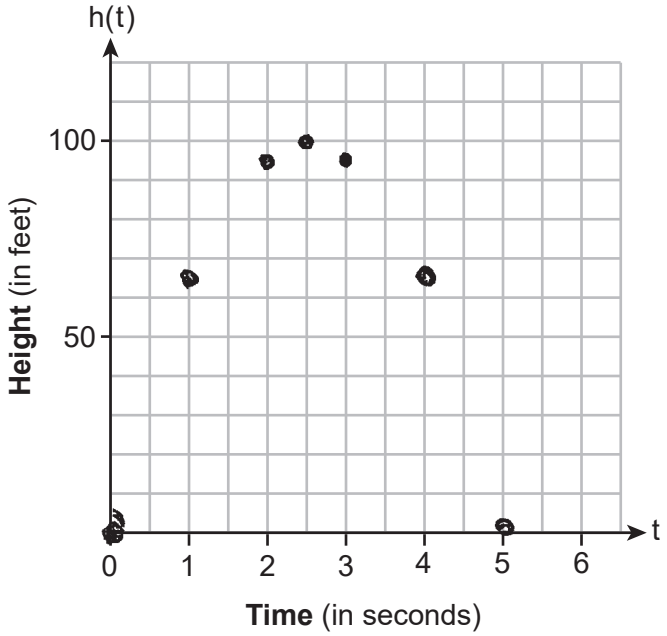
The max height is 100 feet.

Score 4: The student gave a complete and correct response.

Question 31

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.



State how many seconds it will take for the rocket to reach its maximum height.

2.5 seconds

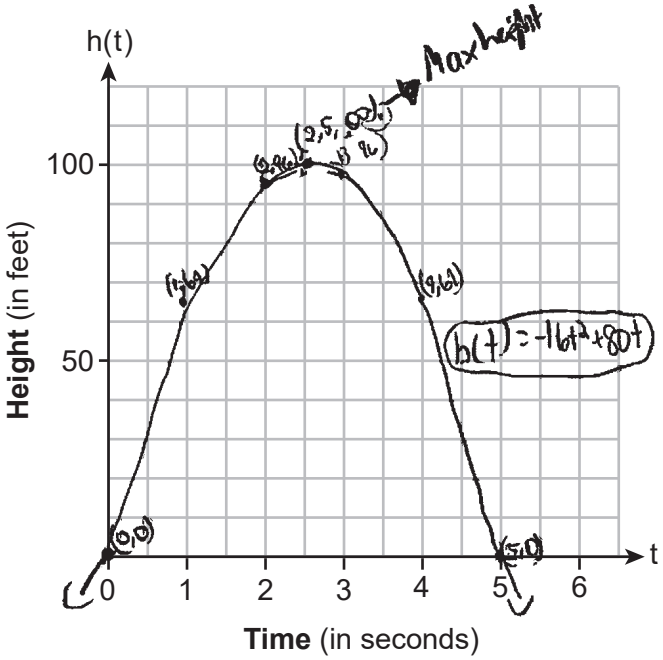
State the maximum height, in feet, of the rocket.

100 feet

Score 3: The student did not complete the parabola.

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.



x	y
0	0
1	64
2	96
3	96
4	64
5	0

State how many seconds it will take for the rocket to reach its maximum height.

It will take 2.5 seconds for the rocket to reach its maximum height.

State the maximum height, in feet, of the rocket.

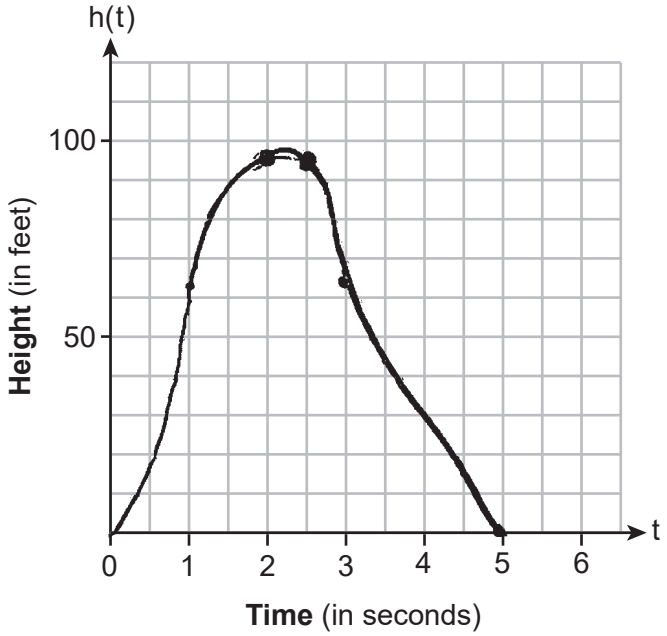
The maximum height of the rocket is 100 feet.

Score 3: The student drew arrows on the graph to continue beyond quadrant 1.

Question 31

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.



h(t)=-16t²+80t

State how many seconds it will take for the rocket to reach its maximum height. x=-b/2a

h(t)=-16(2.5)²+80(2.5) x=-80/2(-16) x=-80/-32 x=2.5

h(t)=100

It will take 2.5 seconds for the rocket to reach its maximum height

State the maximum height, in feet, of the rocket.

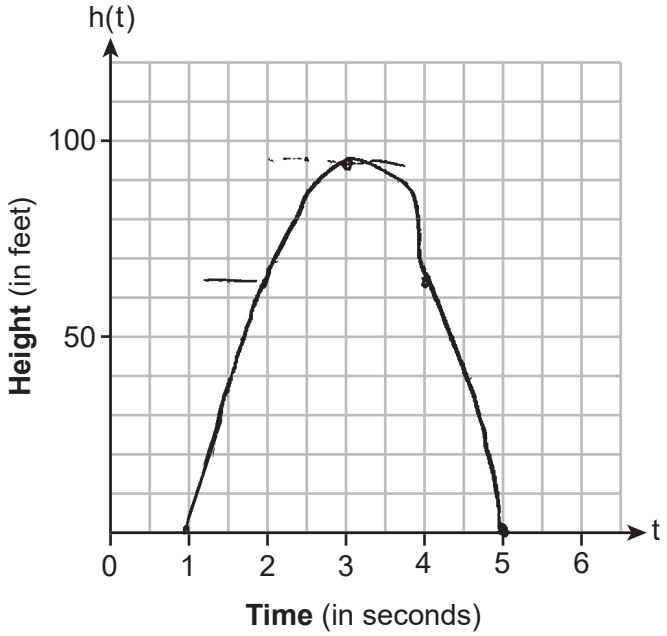
The maximum height in feet is 100 feet.

Score 2: The student only stated 2.5 and 100 correctly.

Question 31

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.



State how many seconds it will take for the rocket to reach its maximum height.

2.5 Seconds

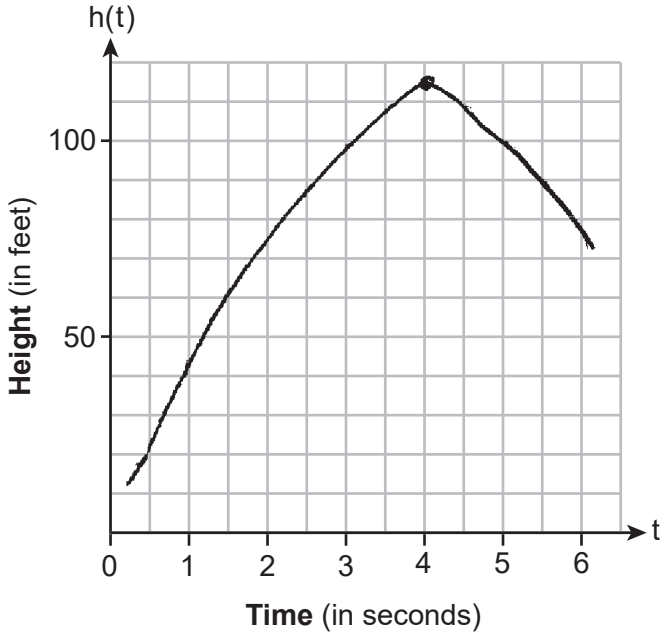
State the maximum height, in feet, of the rocket.

Score 1: The student stated 2.5 correctly.

Question 31

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.



State how many seconds it will take for the rocket to reach its maximum height.

$h(t) = -16t^2 + 80t$

$= 16(4)^2 + 80(4)$

$= 256 + 320$

4 seconds

State the maximum height, in feet, of the rocket.

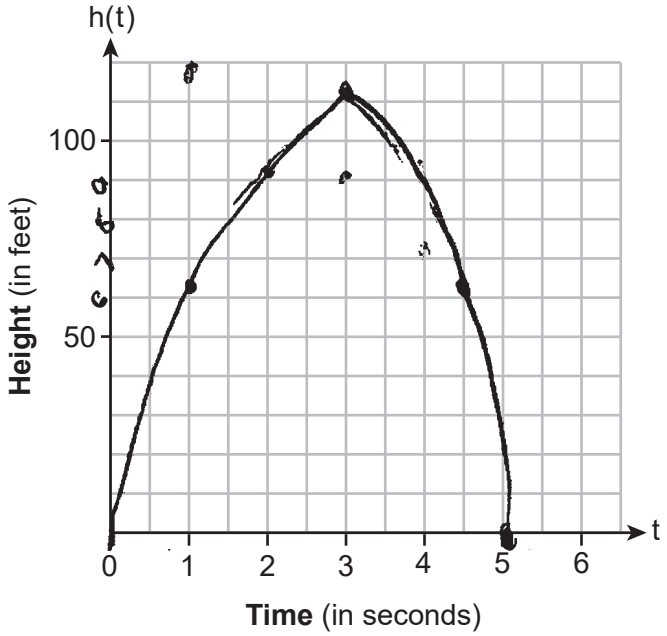
256 feet

Score 1: The student appropriately stated 4 seconds, based on their graph.

Question 31

31 A rocket was launched from the ground into the air at an initial velocity of 80 feet per second. The path of the rocket can be modeled by $h(t) = -16t^2 + 80t$, where t represents the time after the rocket has been launched, and $h(t)$ represents the height of the rocket.

Sketch the function on the set of axes below.



State how many seconds it will take for the rocket to reach its maximum height.

5 seconds

State the maximum height, in feet, of the rocket.

96 ft

Score 0: The student did not show enough correct work to receive any credit.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$2x^2 - 4x - 3 = 0$

$A = 2$

$B = -4$

$C = -3$

$x = \frac{4 \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$

$x = \frac{4 \pm \sqrt{16 + 24}}{4}$

$x = \frac{4 \pm \sqrt{40}}{4}$

$x = \frac{4 \pm \sqrt{40}}{4} \rightarrow \sqrt{40} \rightarrow \sqrt{4} \cdot \sqrt{10}$

$2\sqrt{10} \quad 2 \cdot \sqrt{10}$

$x = \frac{4 \pm 2\sqrt{10}}{4}$

Score 4: The student gave a complete and correct response.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$$X = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$$

$$X = \frac{4 \pm \sqrt{40}}{4}$$

$$\sqrt{40}$$

$$\sqrt{4}\ \sqrt{10}$$

$$2\sqrt{10}$$

$$\frac{4 \pm 2\sqrt{10}}{4}$$

$$1 + \frac{1}{2}\sqrt{10}$$

$$1 - \frac{1}{2}\sqrt{10}$$

Score 4: The student gave a complete and correct response.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$a = 2$

$b = -4$

$c = -3$

$$x = \frac{(4) \pm \sqrt{-4^2 - 4(2)(-3)}}{2(2)}$$

$$x = \frac{(4) \pm \sqrt{8}}{4} \quad (4) \quad 2$$

$2\sqrt{2}$

$$x = \frac{4 \pm 2\sqrt{2}}{4}$$

Score 3: The student did not square −4 correctly.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$2x^2 - 4x - 3 = 0$

$a = 2 \quad b = -4 \quad c = -3$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$

$x = \frac{4 \pm \sqrt{40}}{4}$

$x = \frac{4 \pm \sqrt{4}\sqrt{10}}{4}$

$x = \frac{4 \pm 2\sqrt{10}}{4}$

$x = 1 \pm 2\sqrt{10}$

Score 3: The student made one simplification error.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$x = \frac{-b \pm \sqrt{b^2 \pm 4ac}}{2a} = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$

$a = 2$
$b = -4$
$c = -3$

$= \frac{4 \pm \sqrt{40}}{4}$

$= 4 \pm \sqrt{8 \cdot 5}$

$\sqrt{8} \cdot \sqrt{5}$

$\sqrt{4}\sqrt{2}$

$2\sqrt{2} \cdot \sqrt{5}$

$2\sqrt{10}$

$= \frac{4 \pm 2\sqrt{10}}{4}$

$\frac{4+2\sqrt{10}}{4} = 2.58113883$

$\frac{4-2\sqrt{10}}{4} = -.5811388301$

Score 3: The student converted the correct answers to a decimal.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$a = 2$
$b = -4$
$c = -3$

$$= \frac{4 \pm \sqrt{16 + 24}}{4}$$

$$= \frac{4 \pm \sqrt{40}}{4}$$

[illegible]

$$= 1 \pm \frac{\sqrt{40}}{4}$$

Score 2: The student did not simplify the radical.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$a=2 \quad b=-4 \quad c=-3$

$$\frac{-(-4) \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$$

$\frac{4 \pm \sqrt{40}}{4} \rightarrow \frac{4 \pm \sqrt{8}\sqrt{5}}{4} \rightarrow \frac{4 \pm \sqrt{4}\sqrt{5}}{4} \rightarrow \frac{4 \pm 2\sqrt{5} \div 2}{4 \div 2} \rightarrow \frac{2 \pm \sqrt{5}}{2} \rightarrow 1 \pm 5$

Score 2: The student found $\frac{4 \pm \sqrt{40}}{4}$, but no further correct work is shown.

Question 32

a b c

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$$

$$x = \frac{4 \pm 40}{4}$$

$$x = 1 \pm 10$$

-16 - 8
-24 + 12
-12

Score 1: The student made a correct substitution into the quadratic formula.

Question 32

32 Use the quadratic formula to solve $\overset{a}{2}x^2 - \overset{b}{4}x - \overset{c}{3} = 0$, and express the answer in simplest radical form.

$$X = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$X = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(2)(-3)}}{2(2)}$$

$X = -.5811388301$ $X = 2.581138883$

Score 1: The student made a correct substitution into the quadratic formula.

Question 32

32 Use the quadratic formula to solve $2x^2 - 4x - 3 = 0$, and express the answer in simplest radical form.

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$a = 2$
$b = -4$
$c = -3$
$x = 0$

$0 = \frac{4 \pm \sqrt{16 + (4)(2)(-3)}}{4}$

$0 = \frac{4 \pm \sqrt{8}}{4}$

2 ± 2

$x = 2 \pm \sqrt{2}$

Score 0: The student did not show enough correct work to receive any credit.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$y = -56.97x + 2352.22$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

-0.98

State what this correlation coefficient indicates about the linear fit of the data set.

its a strong negative.

Score 4: The student gave a complete and correct response.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

y = ax + b

y = -56.97x + 2,352.22

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

-.98

State what this correlation coefficient indicates about the linear fit of the data set.

It states it is a strong correlation coefficient because it is close to -1.

Score 4: The student gave a complete and correct response.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$y = ax + b$

$a = -56.968814497 \approx -56.97$

$b = 2352.224532 \approx 2352.22$

$y = -56.97x + 2352.22$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

$r = -0.98207650711 \approx -0.98$

$r = -0.98$

State what this correlation coefficient indicates about the linear fit of the data set.

The correlation coefficient represents that as the age in years increases, the annual cost of car insurance decreases.

Score 3: The student did not state the strength of the linear fit.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

a = -56.96881497
b = 2352.274532

a = -56.97
b = 2352.28

$\hat{y} = -56.97x + 2352.28$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

$r^2 = .96144142654$

$r^2 = .97$

State what this correlation coefficient indicates about the linear fit of the data set.

There is a strong positive correlation between age and cost of car insurance.

Score 3: The student did not state the correct *r* value.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$-56.97x + 2352.22$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

-0.98

State what this correlation coefficient indicates about the linear fit of the data set.

This correlation coefficient indicates that the data shown above has a strong negitive correlation.

Score 3: The student did not write an equation.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$-56.97x + 2352.22$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

20.29

State what this correlation coefficient indicates about the linear fit of the data set.

The linear fit is strong

Score 2: The student did not write an equation and stated an incorrect *r* value.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

y=ax+b
a=-56.97
b=2352.22

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

1.0

State what this correlation coefficient indicates about the linear fit of the data set.

the coefficien will be close to 1.

Score 2: The student wrote the correct linear regression equation.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$y = -57x + 2752.2$

$r =$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

.98

State what this correlation coefficient indicates about the linear fit of the data set.

The correlation coefficient is a strong liner fit.

Score 1: The student only stated strong.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$-56.97x + 2352.22$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

$r = -.982$

State what this correlation coefficient indicates about the linear fit of the data set.

Score 1: The student wrote an expression instead of an equation.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$y = -56.9688x + 2352.22$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

-0.982

State what this correlation coefficient indicates about the linear fit of the data set.

the more the car has in years the less its worth.

Score 1: The student made a rounding error when writing the linear regression equation.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452 1300	1332 1300	1284 1300	1320 1300	1200 1200	1188 1200	600 600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

1300, 1300, 1300, 1300, 1200, 1200, 600

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

1300

State what this correlation coefficient indicates about the linear fit of the data set.

That the higer it gets the less it costs.

Score 0: The student did not show enough correct work to receive any credit.

Question 33

33 The table below shows the ages of drivers and the annual cost of their car insurance.

Age (x) (in years)	16	17	18	18	21	22	30
Annual Cost of Car Insurance (y) (in dollars)	1452	1332	1284	1320	1200	1188	600

Write the linear regression equation for this set of data. Round all values to the *nearest hundredth*.

$-56.969x + 2352.$

State the correlation coefficient of this line of best fit, to the *nearest hundredth*.

Strong positive

State what this correlation coefficient indicates about the linear fit of the data set.

weak positive

Score 0: The student did not show enough correct work to receive any credit.

Question 34

34 Solve the following system of inequalities graphically.

Label the solution set *S*.

$2y \leq x+6$

$y \leq \frac{1}{2}x+3$

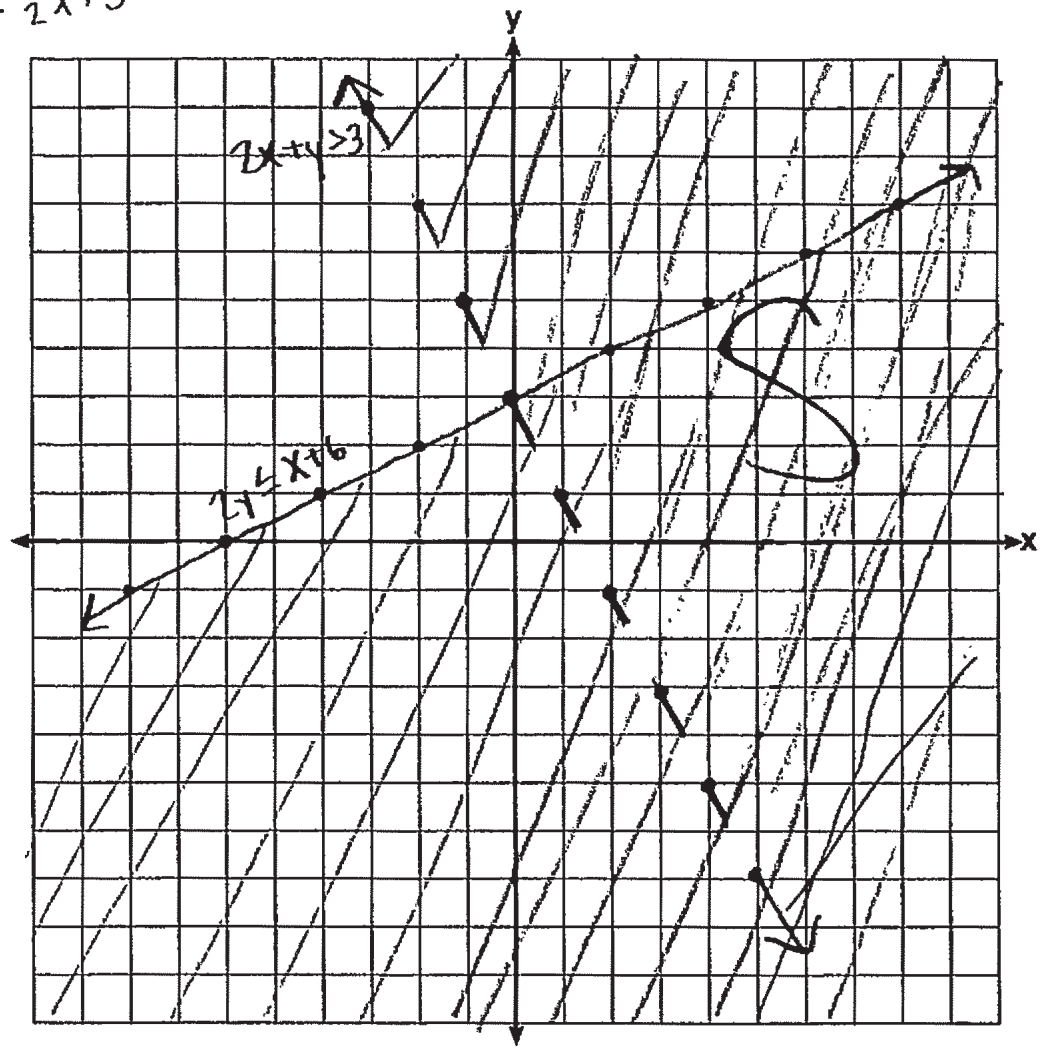
$y \leq \frac{1}{2}x+3$

~~$2y \leq x+6$~~

$2x+y > 3$

$y > 3-2x$

x	y
-4	1
-2	2
0	3
2	4
4	5
6	6



x	y
-3	9
-2	7
-1	5
0	3
1	1
2	-1
3	-3

Is the point (0, 3) in the solution set? Explain your answer.

(0,3) is not in the solution set because it is graphed on a dotted line.

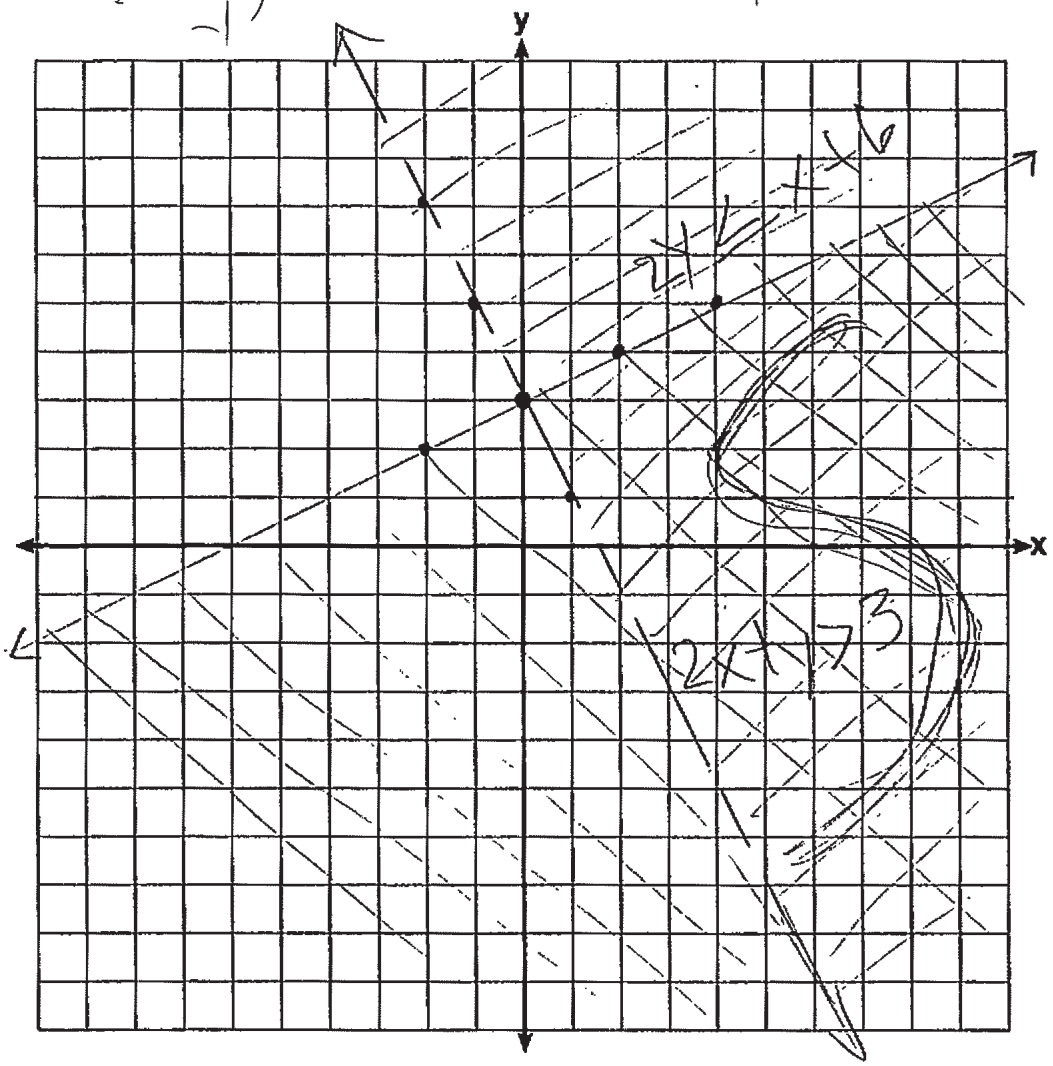
Score 4: The student gave a complete and correct response.

Question 34

34 Solve the following system of inequalities graphically.

Label the solution set S.

$2y \leq x + 6$
$2x + y > 3$



Is the point (0, 3) in the solution set? Explain your answer.

(0,3) is a solution because it is on the solid line.

Score 3: The student wrote an incomplete explanation.

Question 34

34 Solve the following system of inequalities graphically.

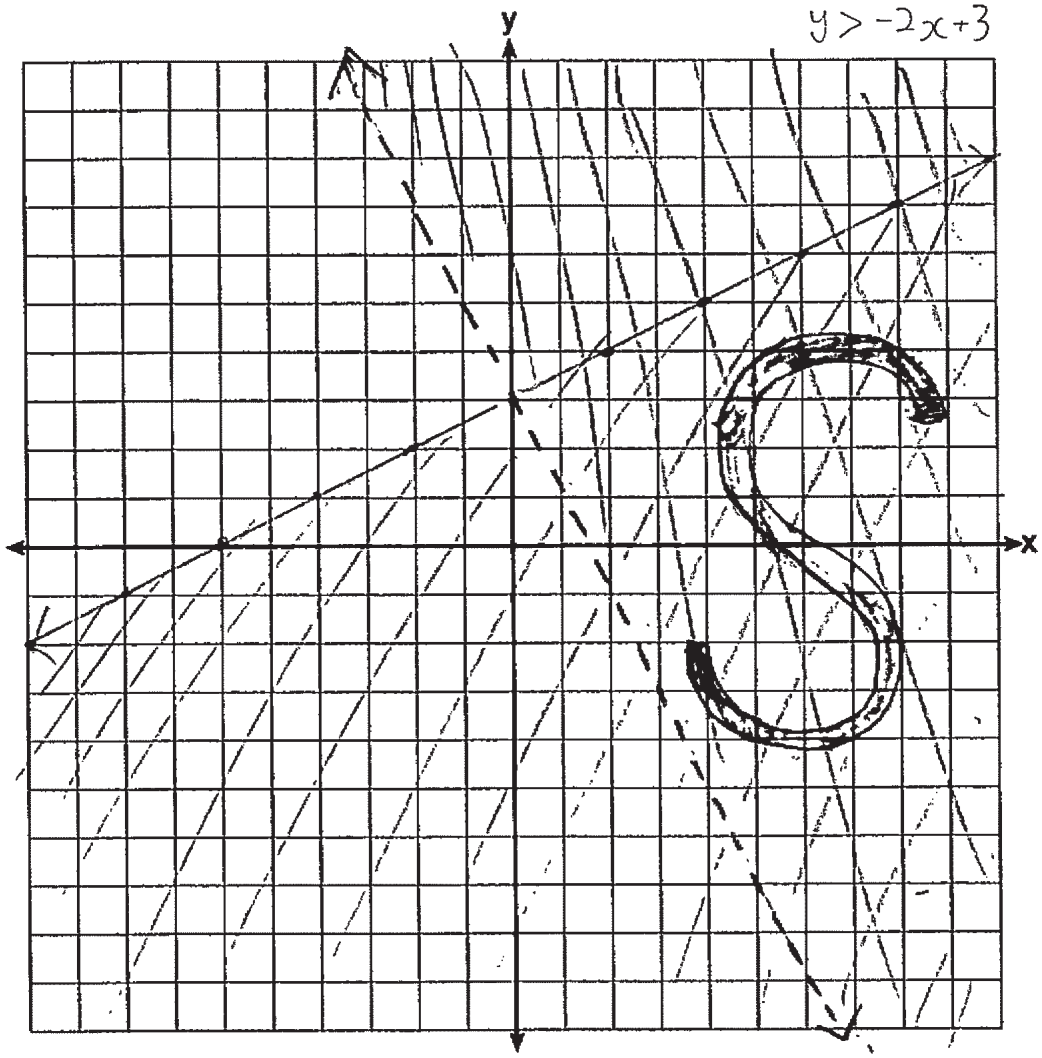
Label the solution set *S*.

$$2y \leq x + 6$$
$$2x + y > 3$$

$y \leq \frac{1}{2}x + 3$

$y > 3 - 2x$

$y > -2x + 3$



Is the point (0, 3) in the solution set? Explain your answer.

No, because it is in the one of the system's solution but it is not in the both of the system solution. The second system does not include (0,3).

Score 3: The student did not label at least one of the inequalities.

Question 34

34 Solve the following system of inequalities graphically.

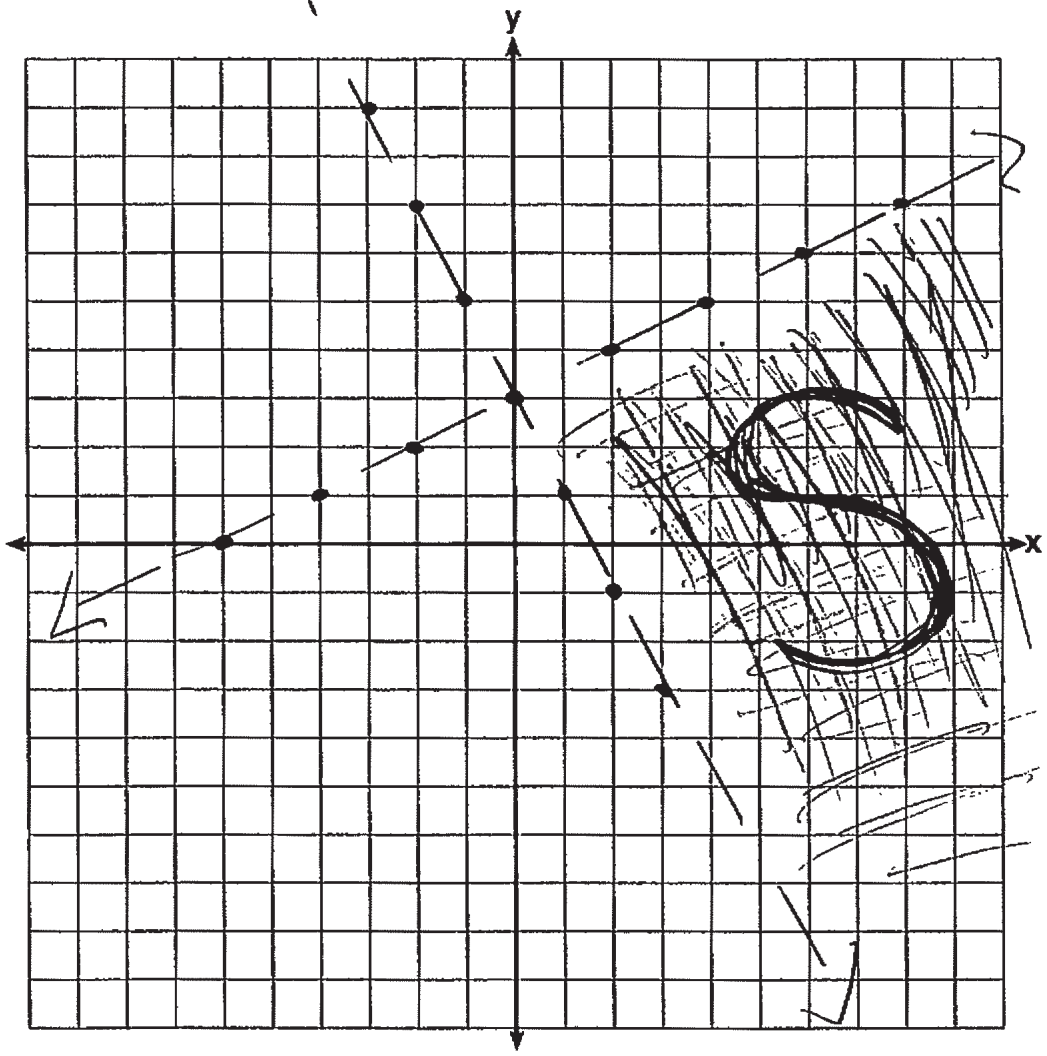
Label the solution set S.

$\frac{2y}{2} \leq \frac{x}{2} + \frac{6}{2}$ $y < \frac{1}{2}x + 3$

$2x + y \geq 3$

$-2x \quad -2x$

$y \geq -2x + 3$



Is the point (0, 3) in the solution set? Explain your answer.

no b/c both of lines are dashed

Score 2: The student made a transcription error and did not label either inequality.

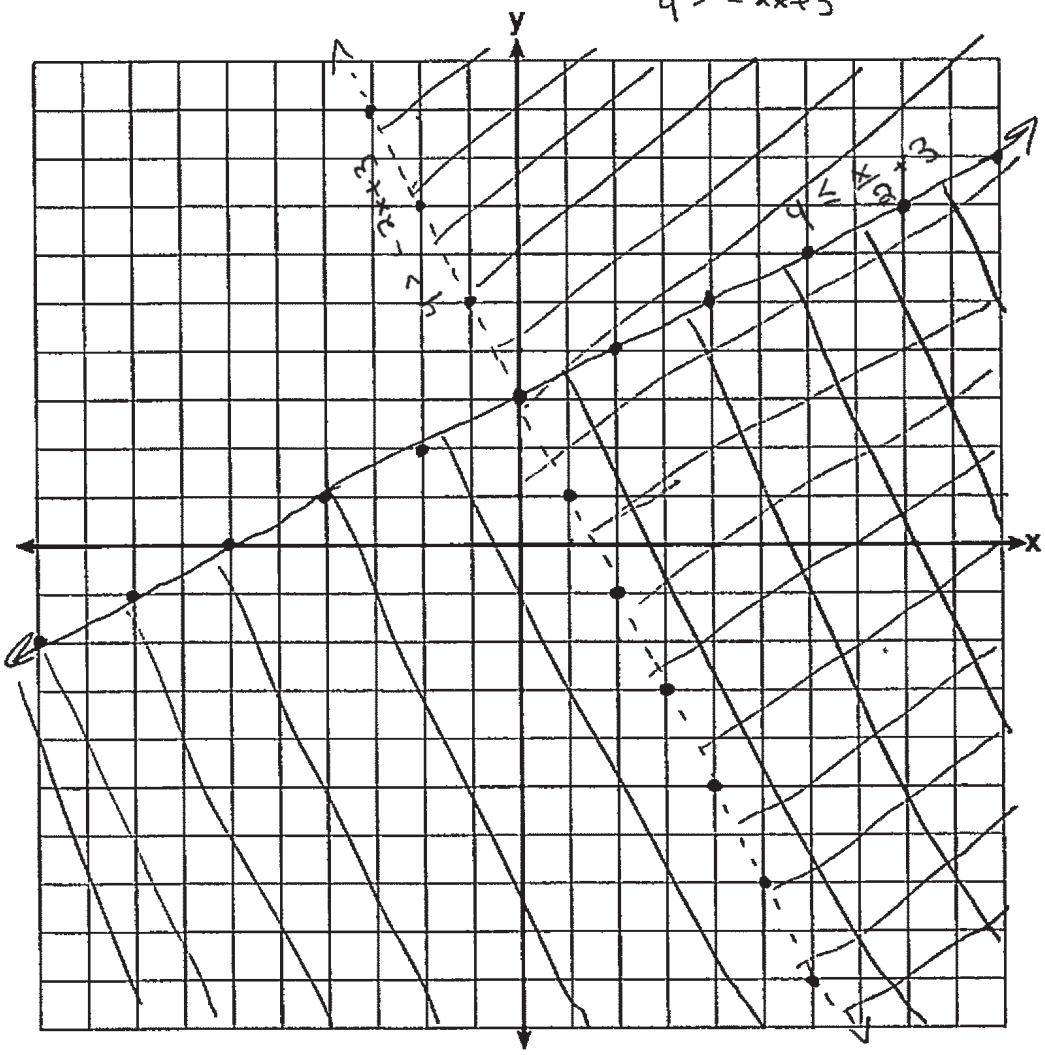
Question 34

34 Solve the following system of inequalities graphically.

Label the solution set S.

$2y \leq x + 6$

$2x + y > 3$



Is the point (0, 3) in the solution set? Explain your answer.

Yes, because it's included and it's a point on the line.

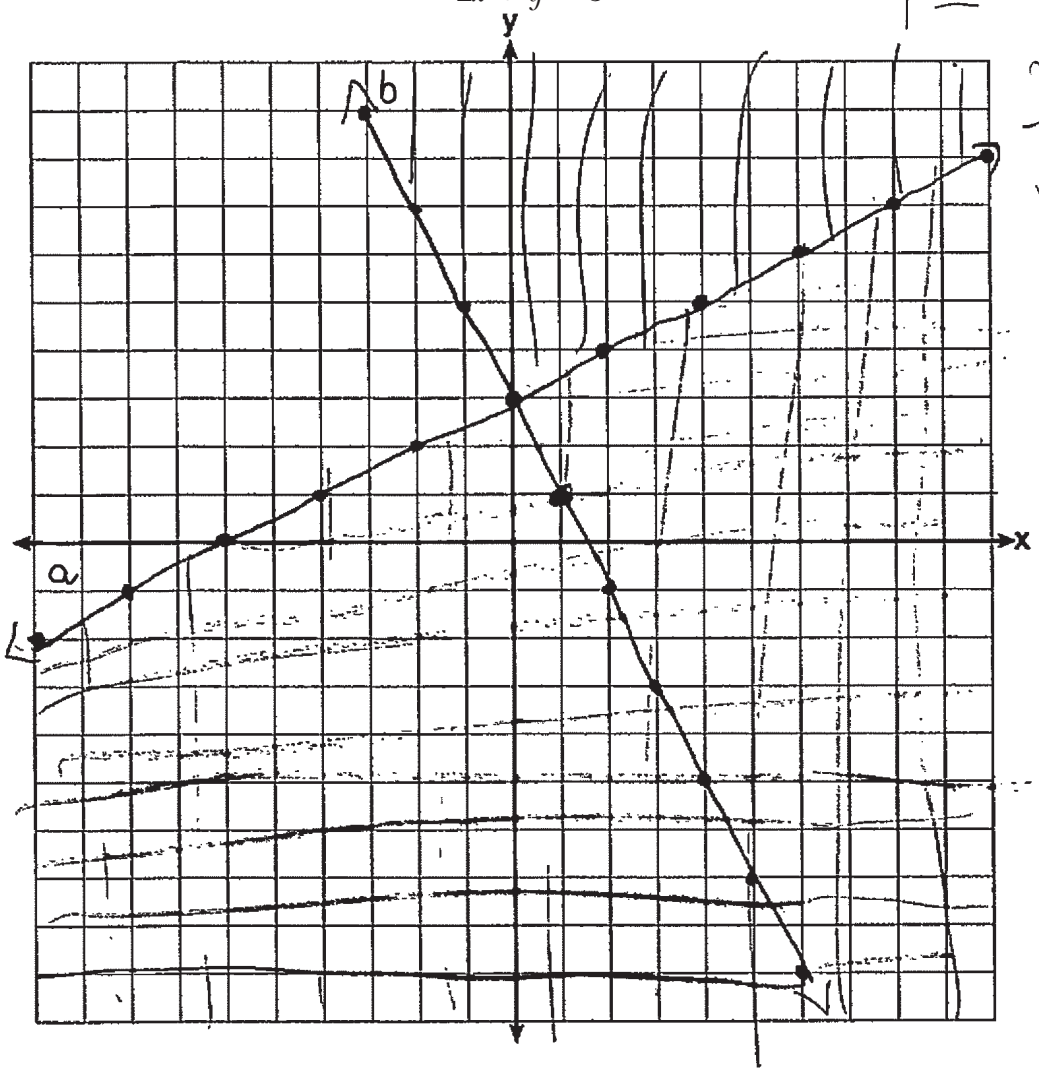
Score 2: The student did not label S and wrote an incorrect explanation.

Question 34

34 Solve the following system of inequalities graphically.

Label the solution set S.

a $2y \leq x + 6$
b $2x + y > 3$



Is the point (0, 3) in the solution set? Explain your answer.

Score 1: The student graphed and labeled one inequality correctly.

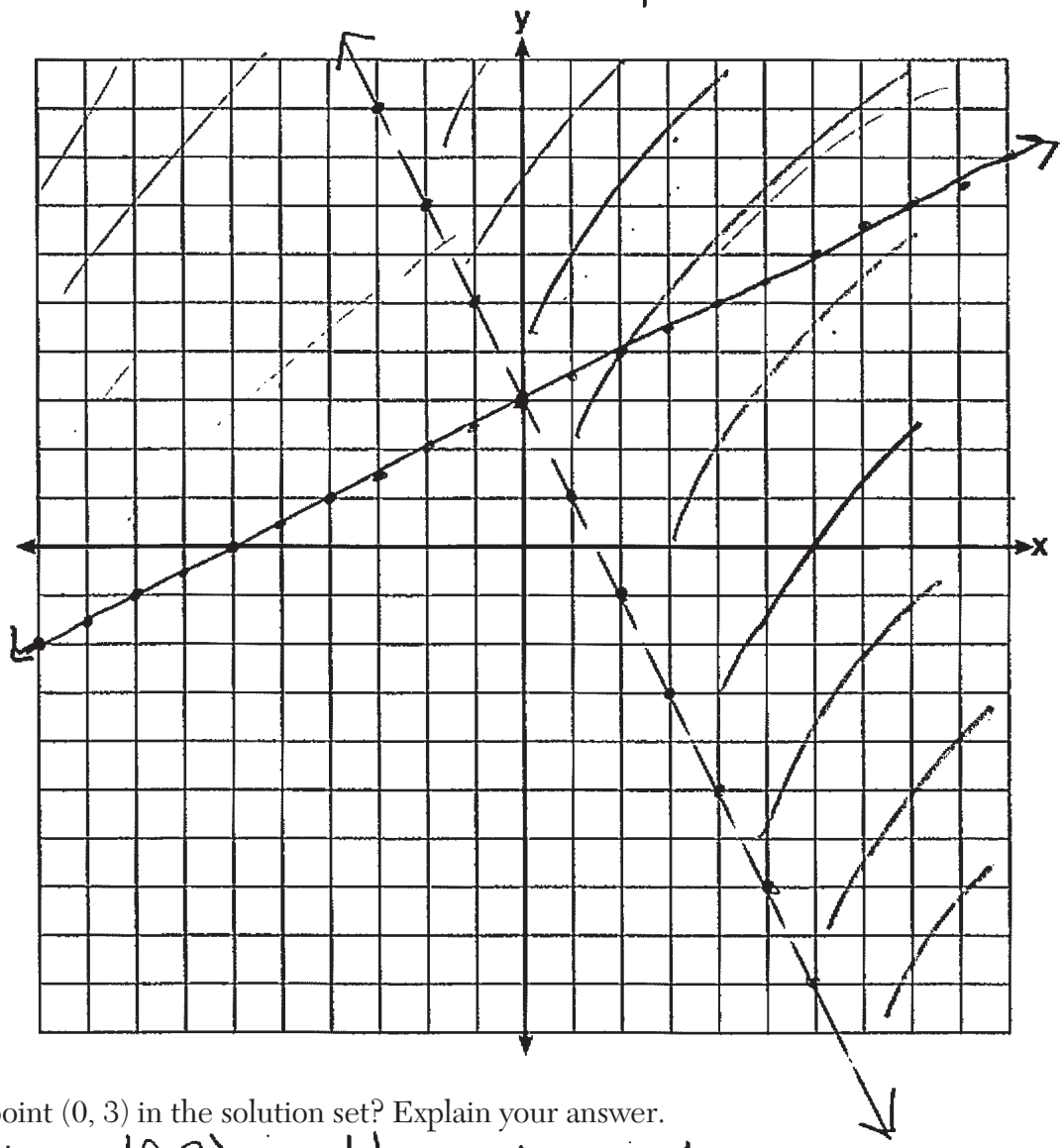
Question 34

34 Solve the following system of inequalities graphically.

Label the solution set S.

$2y \leq x + 6$ $y \leq \frac{1}{2}x + 3$

$2x + y > 3$ $y > -2x + 3$



Is the point (0, 3) in the solution set? Explain your answer.

Yes, (0,3) is the vertex, which means it is part of the solution set

Score 0: The student did not show enough correct work to receive any credit.

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$$\begin{cases} 30x + 10y = 3700 \\ 15x + 20y = 3575 \end{cases}$$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

No, because the cost of Shoes for March is not equal to 3575.

$30(80) + 10(130) = 3700$

$2400 + 1300 = 3700$ $\quad 3700 = 3700$ ✓

$15(80) + 20(130) = 3575$

$1200 + 2600 = 3800$ $\quad 3800 \neq 3575$

Question 35 is continued on the next page.

Score 6: The student gave a complete and correct response.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$30(85)+10(115)=3700$

$2550+1150=3700$

$3700=3700$

$x=85$

$y=115$

$30x+10y=3700$

$15x+20y=3575$

$30x+10(115)=3700$

$30x+1150=3700$

$-1150 \quad -1150$

$30x=2550$

$30 \quad 30$

$30x+10y=3700$

$-$

$30x+40y=7150$

$-30y=-3450$

$-30 \quad -30$

$y=115$

$x=85$

$3575=3575$

$15(85)+20(115)=3575$

$1275+2300=3575$

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

x = running shoes
y = basketball shoes

$30x + 10y = 3700$
$15x + 20y = 3575$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

$30x + 10y = 3700$
$15x + 20y = 3575$

$15x + 5y = 1850$
$-(15x + 20y = 3575)$
$-15y = -1725$
$y = 115$

$30x + 150 = 3700$
$-150 \quad -150$
$30x = 2550$
$x = 85$

He is incorrect because the running shoes cost $85 and the basketball shoes cost $115.

Question 35 is continued on the next page.

Score 6: The student gave a complete and correct response.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$30x + 10y = 3700$ ÷ 2

$15x + 5y = 1850$

$-(15x + 20y = 3575)$

$-15y = -1725$

$-15 \quad -15$

$y = 115$

$15x + 20y = 3575$

$15x + 2300 = 3575$

$-2300 \quad -2300$

$15x = 1275$

$15 \quad 15$

$x = 85$

The cost of one pair of running shoes costs $85 and the cost of one pair of basketball shoes costs $115.

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$30r + 10b = 3700$
$15r + 20b = 3575$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

$30(80) + 10(130) = 3700$ ✓
$15(80) + 20(130) = 3800$ X
No because it only works with one equation.

Question 35 is continued on the next page.

Score 5: The student did not define their variables.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$15(85)+20b=3575$

$1275+20b=3575$

$-1275 \quad -1275$

$20b=2300$

$\frac{20b}{20}=\frac{2300}{20}$

$b=115$

$-2(30r+10b=3700)$

$15r+20b=3575$

$-45r=-3825$

$r=85$

$30(85)+10(115)=3700\checkmark$

$15(85)+20(115)=3575\checkmark$

$r=85$

$b=115$

Check

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$$\begin{cases} 30x + 10y = 3700 \\ 15x + 20y = 3575 \end{cases}$$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

Jacob is correct.

$30(80) + 10(130) = 3700$

$2400 + 1300 = 3700$

$3700 = 3700$

Question 35 is continued on the next page.

Score 5: The student did not justify the second equation to indicate a negative response.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$30x+10y=3700$

$-2(15x+20y=3575)$

$30x+10y=3700$

$-30x-40y=-7150$

$\frac{-30y}{-30}=\frac{-3450}{-30}$

$y=115$

$30x+10(115)=3700$

$30x+1150=3700$

$-1150\ -1150$

$\frac{30x}{30}=\frac{2550}{30}$

$x=85$

Runing Shoes: $85

basketball Shoes $115

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$30x + 10y = 3700$

$15x + 20y = 3575$

$x = 80$ $y = 130$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

$30(80) + 10(130) = 3700$ $3700 = 3700$

$15(80) + 20(130) \neq 3575$ $3575 \neq 3800$

Question 35 is continued on the next page.

Score 4: The student did not indicate a negative response and did not find the cost of one pair of running shoes.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$30x + 10y = 3700$

$-2(15x + 20y = 3575)$

Basketball = \$115

Running =

$30x + 10y = 3700$

$-30x - 40y = -7150$

$-30y = -3450$

$\frac{-30y}{-30} = \frac{-3450}{-30}$

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$-2(30x+10y=3700)$

$15x+20y=3575$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

$30(80)+10(130)=3700$ ✓

yes

Question 35 is continued on the next page.

Score 3: The student only justified the first equation, made an error multiplying $(-2)(3700)$, and changed -995 to 995.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$-60x+20y=-74000$

$15x+20y=3575$

$15(1565)+20y=3575$

$23475+20y=3575$

$-23475 \quad -23475$

$-45x=-70425$

$\frac{-45x}{-45}=\frac{-70425}{-45}$

$x=1565$

$\frac{20y}{20}=\frac{-19900}{20}$

$x=-995$

running shoes = $1565

basketball shoes = $995

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

x= $ of one pair of running shoes
y= $ of one pair of basketball shoes
30x+10y=3700
15x+20y=3575

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

Yes, Jacob is correct because when you multiply 30 and 80 the product is 2400. On question #1 it saids the store bought 30 pairs of running shoes Jacob saids a pair of running shoes costs $80 each. A pair of basketball shoes costs $130 each and the store bought 10 pairs of basketball shoes which is $1300 in total, then 30 pairs of running shoes and 10 pairs of basketball shoes comes to a total of $3,700.

30 × 80 = 2400
130 × 10 = 1300
2400 + 1300 = 3700

Question 35 is continued on the next page.

Score 3: The student wrote a correct system of equations and justified only one equation.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$30x+10y=3700$

$-1.5(15x+20y)=3575$

$-30x-15x-20y=-3575$

$-45y-20y=-3575$

$+20y \quad +20y$

$-25y=-3575$

-25

$y=143$

$30x+10y=3700$

$-10x-10y$

$20x=3700$

20

$x=185$

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$30x + 10y = \$3700$

$15x + 20y = 3575$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

$\$80 \cdot 30 = 2400$

$\$10 \cdot 130 = 1300$

He is incorrect because of the equations shown above

Question 35 is continued on the next page.

Score 2: The student wrote a correct system of equations.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$30x + 10y = 3700$

$-10 \quad -10$

$\frac{30x}{30} = \frac{690}{30}$

$x = 23$ $

$15x + 20y = 3575$

$-20 \quad -20$

$\frac{19x}{15} = \frac{3555}{15}$

$x = 237$

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$x + y = 3575$

$15 + 20 = 35$

$x + y = 3700$

$30 + 10 = 40$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

15×80

20×130 $+ = 3575$

$1200 + 2600 = 3800 \neq 3575$

he is wrong because it doesnt equal 3575 it equals 3,800

Question 35 is continued on the next page.

Score 2: The student wrote a correct justification.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$15+y=\$3575$

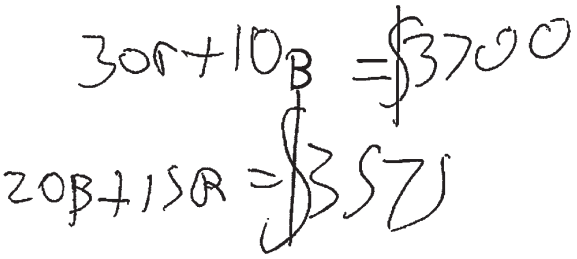
$\frac{3560}{35} = 101.7$ for running shoes

101.66 for Basketball shoes

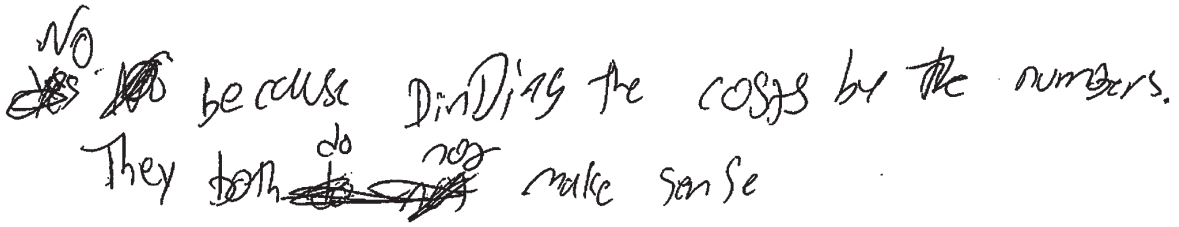
Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.



Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.



Question 35 is continued on the next page.

Score 1: The student wrote a correct system of equations, but did not define their variables.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

Running Shoes cost 85

basketball shoes cost 125

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

Jan: $30r + 10b = 3700$

March: $15r + 20b = 3575$

$y = 2400$
$x = 1300$ } Jan

$y = 1200$
$x = 2600$ } March

running shoes $80 each
bball $130 each

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

He is correct because 80·30 is 2400 and 130·10 is 1300 and if you add that together you get 3700.

Question 35 is continued on the next page.

Score 1: The student only justified in the first equation.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

January
30 Running shoes
10 Basketball shoes } $3,700

March
15 Running Shoes
20 Basketball shoes } $3575

$x + y = \$3700$
$x + y = \$3575$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

Pair of Running Shoes: $80
Pair of Basketball Shoes: $130

yes he is correct because if you combine the totals then you get the same answer

Question 35 is continued on the next page.

Score 0: The student did not show enough correct work to receive any credit.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

$130
$ 80

$130 - 80 = 50

Question 35

35 Acme Athletics purchases shoes from a supply company. In January the store bought 30 pairs of running shoes and 10 pairs of basketball shoes for $3700. In March they bought 15 pairs of running shoes and 20 pairs of basketball shoes for $3575. The supply company kept their prices constant.

If x represents the cost of one pair of running shoes and y represents the cost of one pair of basketball shoes, write a system of equations that models this situation.

$y = ax + b$

Jacob says that a pair of running shoes costs the store $80 each, and a pair of basketball shoes costs the store $130 each. Is he correct? Justify your answer.

NO

$3700 / 10 = 370$

$3700 / 30 = 123$

Question 35 is continued on the next page.

Score 0: The student did not show enough correct work to receive any credit.

Question 35 continued

Solve your system of equations algebraically to find the exact cost, in dollars, of one pair of running shoes and the exact cost, in dollars, of one pair of basketball shoes.

A singular pair of basketball shoes is 370 and a singular pair of running shoes is 123.$\overline{3}$ = 124