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Our Students. Their Moment.

New York State Testing Program
Grade 8
Mathematics Test

Released Questions

June 2019

New York State administered the Mathematics Tests in May 2019
and is now making approximately 75% of the
questions from these tests available for review and use.

New York State Testing Program
Grades 3–8 Mathematics

Released Questions from 2019 Exams

Background

In 2013, New York State began administering tests designed to assess student performance in accordance with the instructional shifts and rigor demanded by the new New York State P-12 Learning Standards in Mathematics. To help in this transition to new assessments, the New York State Education Department (SED) has been releasing an increasing number of test questions from the tests that were administered to students across the State in the spring. This year, SED is again releasing large portions of the 2019 NYS Grades 3-8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2019, included in these released materials are at least 75 percent of the test questions that appeared on the 2019 tests (including all constructed-response questions) that counted toward students' scores. Additionally, SED is also providing a map that details what each released question measures and the correct response to each question. These released materials will help students, families, educators, and the public better understand the tests and the New York State Education Department's expectations for students.

Understanding Math Questions

Multiple-Choice Questions

Multiple-choice questions are designed to assess the New York State P-12 Learning Standards for Mathematics. Mathematics multiple-choice questions will be used mainly to assess standard algorithms and conceptual standards. Multiple-choice questions incorporate both the grade-level standards and the "Standards for Mathematical Practices." Many questions are framed within the context of real-world applications or require students to complete multiple steps. Likewise, many of these questions are linked to more than one standard, drawing on the simultaneous application of multiple skills and concepts.

Short-Response Questions

Short-response questions require students to complete tasks and show their work. Like multiple-choice questions, short-response questions will often require multiple steps, the application of multiple mathematics skills, and real-world applications. Many of the short-response questions will cover conceptual and application of the standards.

Extended-Response Questions

Extended-response questions ask students to show their work in completing two or more tasks or a more extensive problem. Extended-response questions allow students to show their understanding of mathematical procedures, conceptual understanding, and application. Extended-response questions may also assess student reasoning and the ability to critique the arguments of others.

The scoring rubric for short and extended constructed-response questions can be found in the grade-level Educator Guides at https://www.engageny.org/resource/test-guides-english-language-arts-andmathematics.

New York State P-12 Learning Standards Alignment

The alignment(s) to the New York State P-12 Learning Standards for Mathematics is/are intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedure and conceptual understanding. For example, two-point and three-point constructed-response questions require students to show an understanding of mathematical procedures, concepts, and applications.

These Released Questions Do Not Comprise a "Mini Test"

To ensure future valid and reliable tests, some content must remain secure for possible use on future exams. As such, this document is *not* intended to be representative of the entire test, to show how operational tests look, or to provide information about how teachers should administer the test; rather, its purpose is to provide an overview of how the test reflects the demands of the New York State P-12 Learning Standards.

The released questions do not represent the full spectrum of the standards assessed on the State tests, nor do they represent the full spectrum of how the standards should be taught and assessed in the classroom. It should not be assumed that a particular standard will be measured by an identical question in future assessments. Specific criteria for writing test questions, as well as additional assessment information, are available at http://www.engageny.org/common-core-assessments.

Non: _____

Haitian Creole Edition

Grade 8 2019

Mathematics Test

Session 1

May 1–3, 2019

Pwogram Egzamen Eta Nouyòk Egzamen Matematik Seyans 1

Ane 8

1–3 Me 2019

RELEASED QUESTIONS

Ane 8 Fèy Referans Matematik

KONVÈSYON

1 pous = 2,54 santimèt
1 mèt = 39,37 pous
1 mil = 5.280 pye
1 mil = 1.760 yad
1 mil = 1,609 kilomèt

1 kilomèt = 0,62 mil
1 liv = 16 ons
1 liv = 0,454 kilogram
1 kilogram = 2,2 liv
1 tòn = 2.000 liv

1 tas = 8 ons likid
1 pent = 2 tas
1 ka = 2 pent
1 galon = 4 ka
1 galon = 3,785 lit
1 lit = 0,264 galon
1 lit = 1.000 santimèt kib

FÒMIL

Triyang	$A = \frac{1}{2}bh$
Paralelogram	$A = bh$
Sèk	$A = \pi r^2$
Sèk	$C = \pi d$ oswa $C = 2\pi r$
Prism Jeneral	$V = Bh$
Silenn	$V = \pi r^2 h$
Esfè	$V = \frac{4}{3}\pi r^3$
Kòn	$V = \frac{1}{3}\pi r^2 h$
Teyorèm Pitagò	$a^2 + b^2 = c^2$

Seyans 1

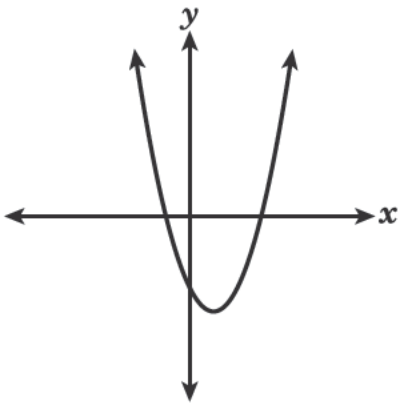
KONSÈY POU PRAN EGZAMEN AN

Men kèk sijesyon pou ede ou bay pi bon rannman:

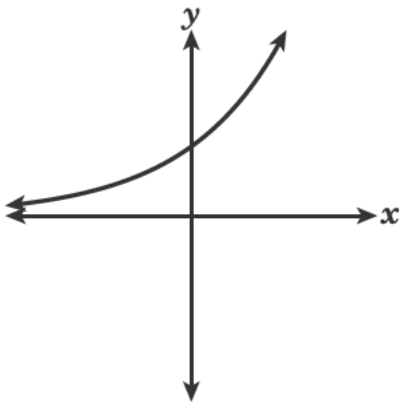
- Li chak kesyon avèk atansyon epi reflechi sou chak repons anvan ou fè chwa ou.
- Yo ba w enstriman jeometri (yon règ, yon rapòtè ak yon kalkilatris) epi yon papye ki gen fòmil yo ladan pou w sèvi pandan egzamen an. Se oumenm k ap deside kilè chak enstriman ak fich referans lan ap ede w. Ou ka sèvi ak enstriman jeometri yo avèk papye fòmil la tou nenpòt ki lè w panse l ap ede w reponn yon kesyon.

1 Ki graf ki reprezante yon fonksyon lineyè x ?

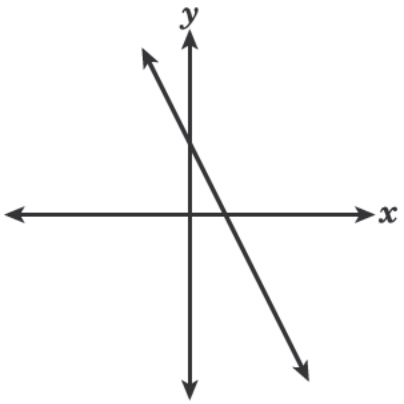
A



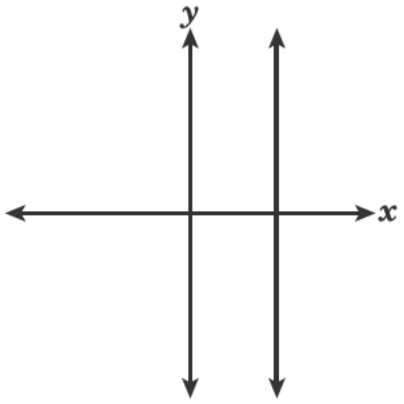
C



B



D



2 Kisa ki valè ekspresyon ki pi ba a?

$$\frac{1,6 \times 10^5}{0,2 \times 10^2}$$

A $0,8 \times 10^3$

B 8×10^3

C $0,8 \times 10^7$

D 8×10^7

KONTINYE

3 Nan yon faktori, depans pou fabrike kantite diferan bwòs dan nan tablo ki pi ba a.

PRI BWÒS DAN YO

Kantite Bwòs Dan	3	6	9	12
Pri (dola)	$4,50	$9,00	$13,50	$18,00

Yon fonksyon lineyè reprezante depans yo selon kantite bwòs dan yo fabrike.
Ki deklarasyon sou to chanjman fonksyon sa a ki vrè?

A Depans la ogmante pa $1,50 pou chak bwòs dan anplis yo fabrike.

B Depans la ogmante pa $4,50 pou chak bwòs dan anplis yo fabrike.

C Depans la ogmante pa $9,00 pou chak 3 bwòs dan anplis yo fabrike.

D Depans la ogmante pa $18,00 pou chak 3 bwòs dan anplis yo fabrike.

4 Yon konpayi fè kòn krèm glase de gwosè diferan. Kòn ki pi piti yo gen yon wotè 3,5 pous ak yon dyamèt 3 pous. Kòn ki pi gwo yo gen yon wotè 5,1 pous ak yon dyamèt 4,5 pous. Apeprè nan ki kantite volim kòn ki pi gwo a pi gwo pase volim kòn ki piti a ye lè w awondi li nan dizyèm pous kib ki pi pre a?

A 18,8

B 56,4

C 75,2

D 225,5

7 Ki ekwasyon ki reprezante yon fonksyon x ki **pa** lineyè?

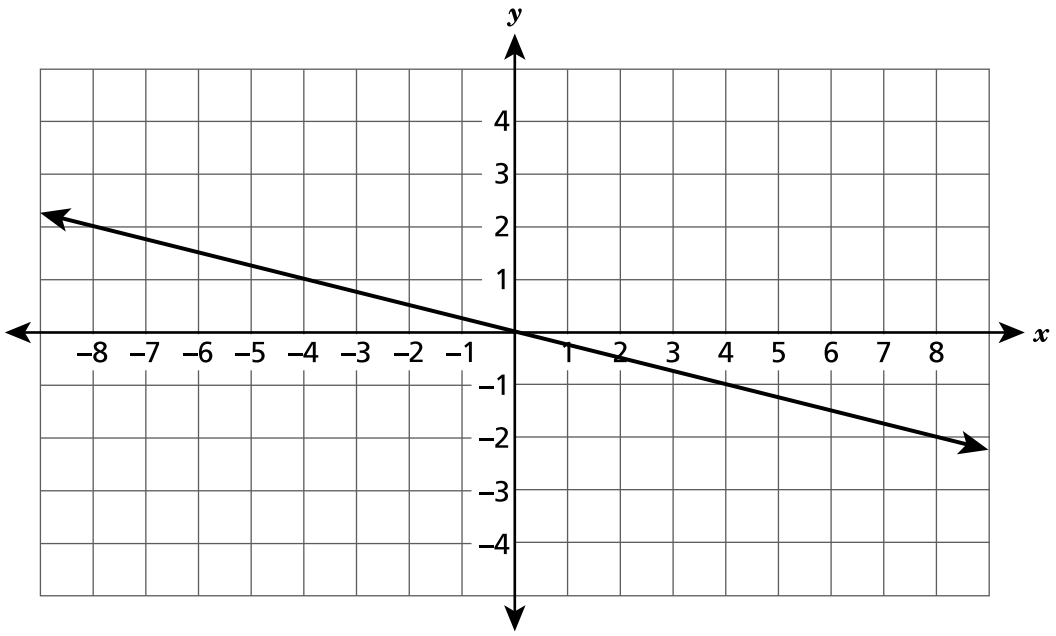
A $y = 4(x + 3)$

B $y = 4^2 + 3x$

C $y = 4x + 3x^2$

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

8 Ki ekwasyon ki reprezante dwat yo endike sou plan kowòdone ki pi ba a?



A $y = 4x$

B $y = -4x$

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

D $y = -\frac{1}{4}x$

9 Distans ki pi pre ant Latè ak Mas se apeprè $3,39 \times 10^7$ mil. Fize pi rapid ki kite Latè a vwayaje nan yon vitès mwayèn apeprè $3,6 \times 10^4$ milalè. Nan to sa a, ki ekspresyon yo te ka itilize pou detèmine apeprè kantite èdtan fize a t ap pran pou vwayaje nan distans sa a?

A $\left(3,39 \times 10^7\right) - \left(3,6 \times 10^4\right)$

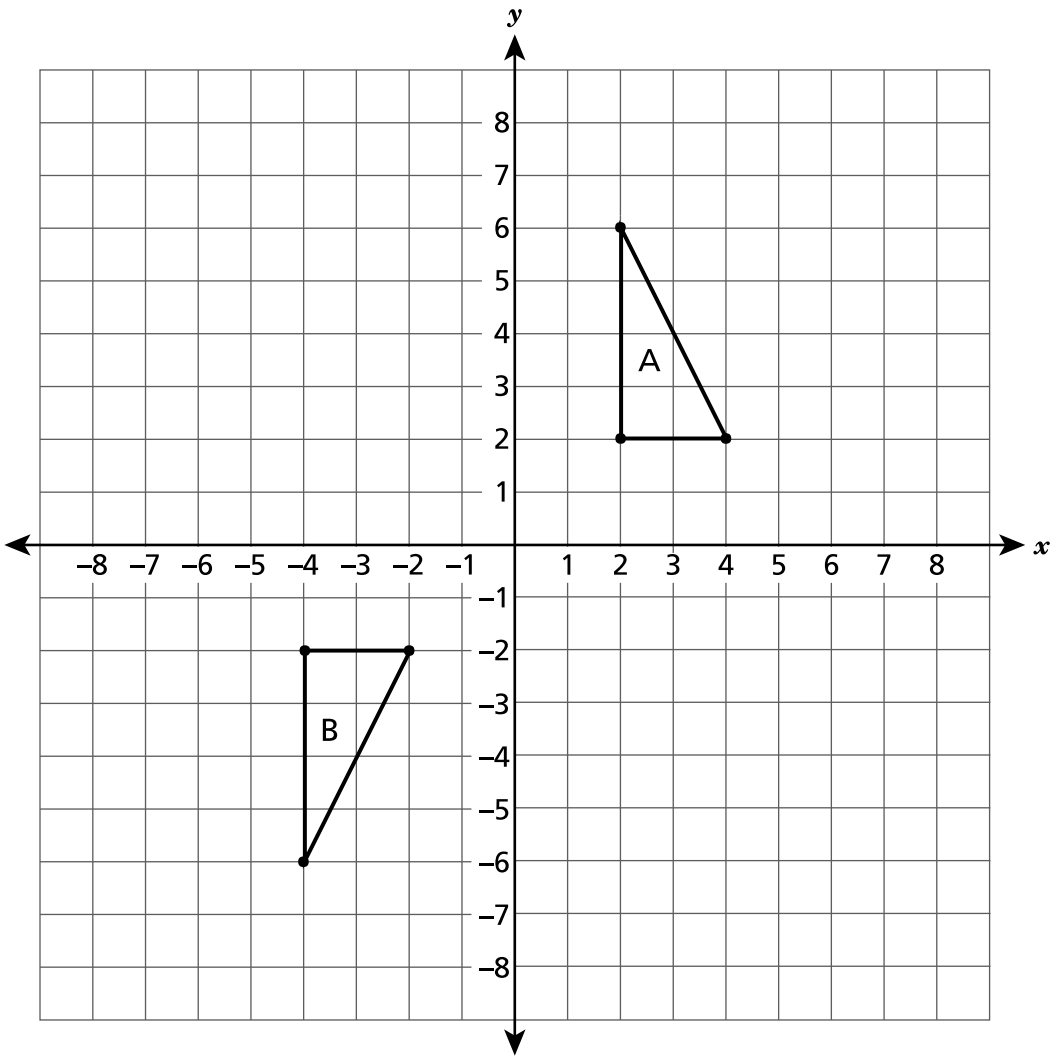
B $\left(3,6 \times 10^4\right) - \left(3,39 \times 10^7\right)$

C $\left(3,39 \times 10^7\right) \div \left(3,6 \times 10^4\right)$

D $\left(3,6 \times 10^4\right) \div \left(3,39 \times 10^7\right)$

KONTINYE

11 Yo reprezante triyang A ak triyang B sou plan kowòdone ki pi ba a.



Ki sekans transfòmasyon k ap deziye triyang A sou imaj kongriyan li, triyang B ?

A yon refleksyon sou aks x, apresa yon refleksyon sou aks y

B yon translasyon 8 inite anba, epi yon refleksyon sou aks y

C yon refleksyon sou aks x, apresa yon translasyon 6 inite agoch

D yon wotasyon 90° nan sans zegwi yon mont toutotou orijin lan, apresa yon translasyon 6 inite agoch

KONTINYE

12 Ki sistèm ekwasyon ki pa gen okenn solisyon?

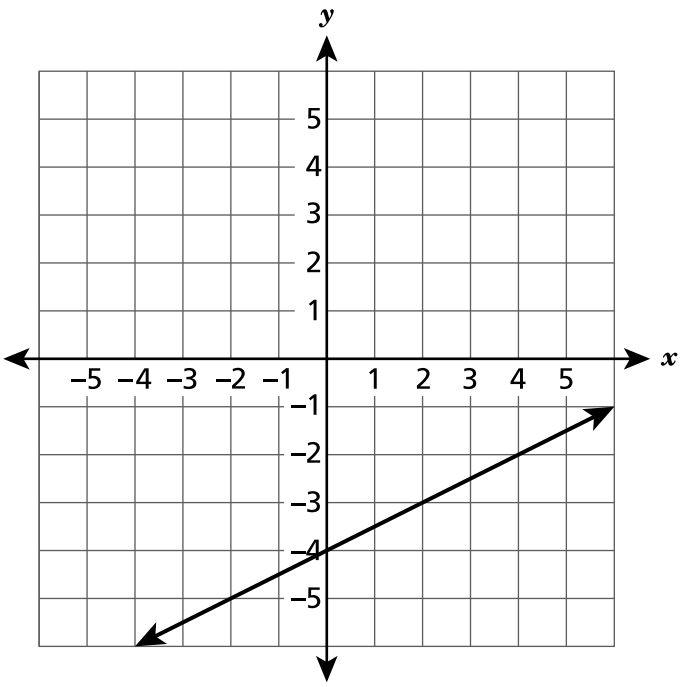
A $\begin{cases} 3x + 4y = 5 \\ 6x + 8y = 10 \end{cases}$

B $\begin{cases} 7x - 2y = 9 \\ 7x - 2y = 13 \end{cases}$

C $\begin{cases} 2x - y = -11 \\ -2x + y = 11 \end{cases}$

D $\begin{cases} 3x + 6y = 1 \\ x + y = 0 \end{cases}$

13 Gen yon dwat ki trase sou plan kowòdone ki pi ba a.



Yo pral trase dwat $y = -x + 2$ sou menm plan kowòdone a pou kreye yon sistèm ekwasyon. Ki solisyon sistèm ekwasyon sa a?

A $(-2, 4)$

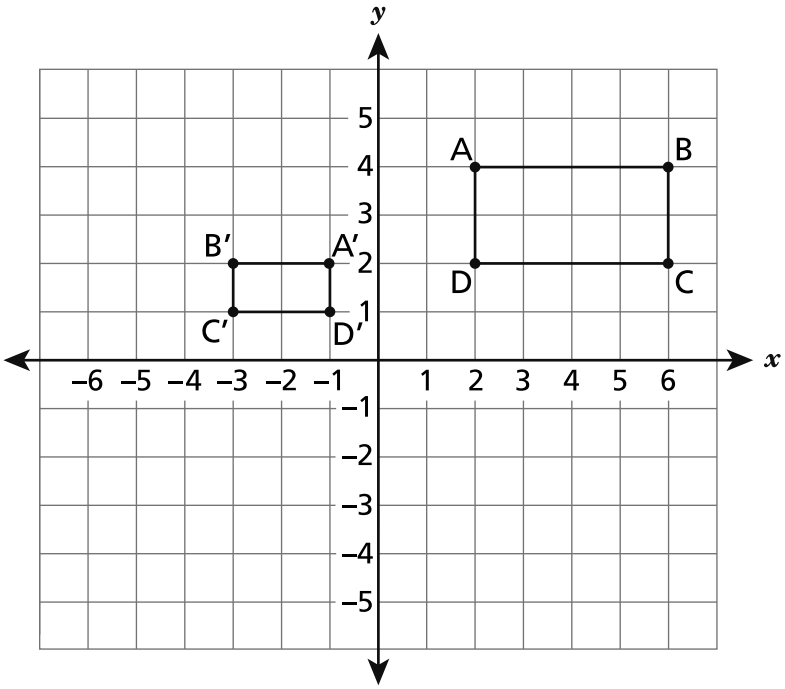
B $(0, -4)$

C $(2, -4)$

D $(4, -2)$

KONTINYE

16 Rektang $A'B'C'D'$ similè ak rektang $ABCD$, jan yo montre nan plan kowòdone ki pi ba a.



Ki sekans transfòmasyon ki deziye rektang $ABCD$ nan rektang $A'B'C'D'$?

A yon translasyon 8 inite agoch, apresa yon dilatasyon ak yon faktè echèl $\frac{1}{2}$ avèk yon sant dilatasyon nan orijin lan

B yon refleksyon sou aks y, apresa yon dilatasyon ak yon faktè echèl $\frac{1}{2}$ avèk yon sant dilatasyon nan orijin lan

C yon dilatasyon ak yon faktè echèl $\frac{1}{2}$ avèk yon sant dilatasyon nan orijin lan, apresa yon 90° wotasyon nan sans envès zegwi mont toutotou orijin lan

D yon 90° wotasyon nan sans envès zegwi yon mont toutotou orijin lan, apresa yon dilatasyon ak yon faktè echèl $\frac{1}{2}$ avèk yon sant dilatasyon nan orijin lan

KONTINYE

17 Patty gen yon bwat flè ki gen fòm yon pris rektangilè epi dimansyon andedan li se 15 pous an longè, 8 pous an lajè, ak 6 pous an wotè. Patty pral ranpli bwat flè $\frac{3}{4}$ ak tè. Konbyen pous kib tè ki pral nan bwat flè a?

A 387

B 516

C 540

D 720

24 Ki deklarasyon ki dekri **pi byen** done ki nan yon dyagram dispèsyon kote valè *y* yo ap diminye pandan valè *x* yo ap ogmante?

A Yo ka reprezante done yo pi byen ak yon dwat vètikal.

B Yo ka reprezante done yo pi byen ak yon dwat orizontal.

C Yo ka reprezante done yo pi byen ak yon dwat ki gen yon pant pozitif.

D Yo ka reprezante done yo pi byen ak yon dwat ki gen yon pant negatif.

25 Ki relasyon pwopòsyonèl ki gen pi gran to chanjman?

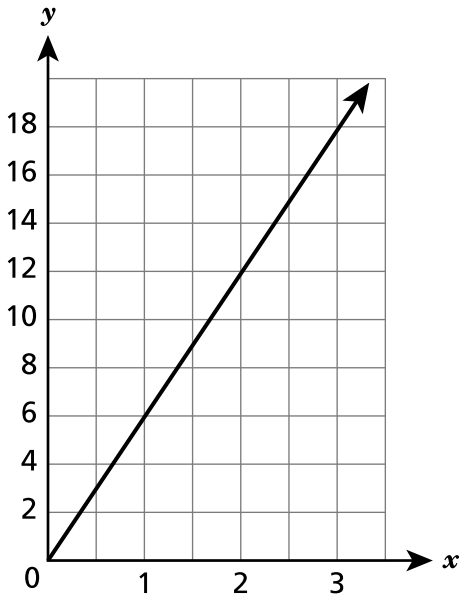
A $y = 7x$

B Valè y ogmante pa 12 pou chak ogmantasyon 4 nan valè x.

C

x	y
0	0
2	8
4	16
6	24

D



KONTINYE

29 Ki ekspresyon ki ekivalan ak $\left(5^{-2}\right)^{5} \times 5^{4}$?

A 5^{12}

B 5^{7}

C $\frac{1}{5^{6}}$

D $\frac{1}{5^{40}}$

30 Yo montre fonksyon lineyè M ak P pi ba a.

FONKSYON M

x	y
–2	–9
0	1
2	11
4	21

FONKSYON P

$y = 7x + 9$

Lè w ap konpare to chanjman yo, ki deklarasyon sou Fonksyon M ak Fonksyon P ki vrè?

A To chanjman yo diferan de 2.

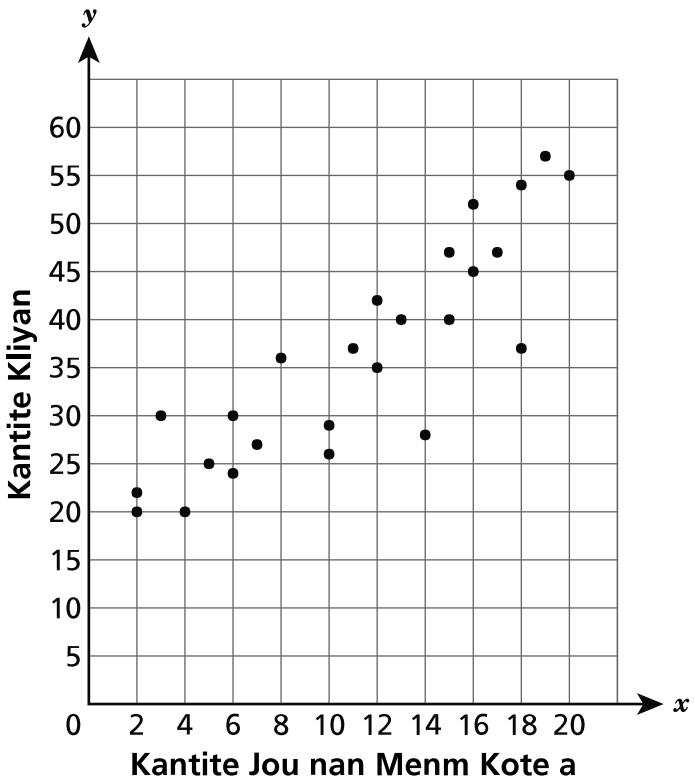
B To chanjman yo diferan de 4.

C Fonksyon M gen pi gran to chanjman pase Fonksyon P.

D Fonksyon M ak Fonksyon P gen menm to chanjman.

31 Dyagram dispèsyon ki pi ba a montre mwayen kantite kliyan ki al achte nan yon restoran mobil pa jou, selon kantite jou restoran mobil la rete menm kote a.

KLIYAN RESTORAN MOBIL YO



Ki deklarasyon ki dekri **pi byen** asosyasyon ant kantite jou restoran mobil la rete menm kote a ak kantite kliyan ki al achte manje nan restoran mobil la pa jou?

A Pa gen okenn asosyasyon.

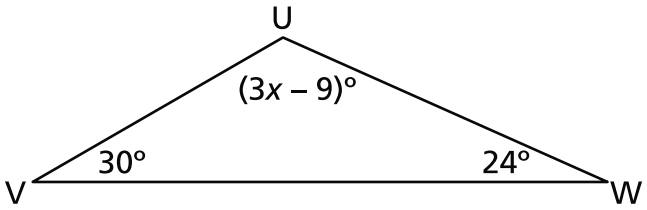
B Gen yon asosyasyon non-lineyè.

C Gen yon asosyasyon lineyè pozitif.

D Gen yon asosyasyon lineyè negatif.

KONTINYE

32 Yo montre nan dyagram ki anba a mezi ang yo nan triyang UVW.



Ki valè x?

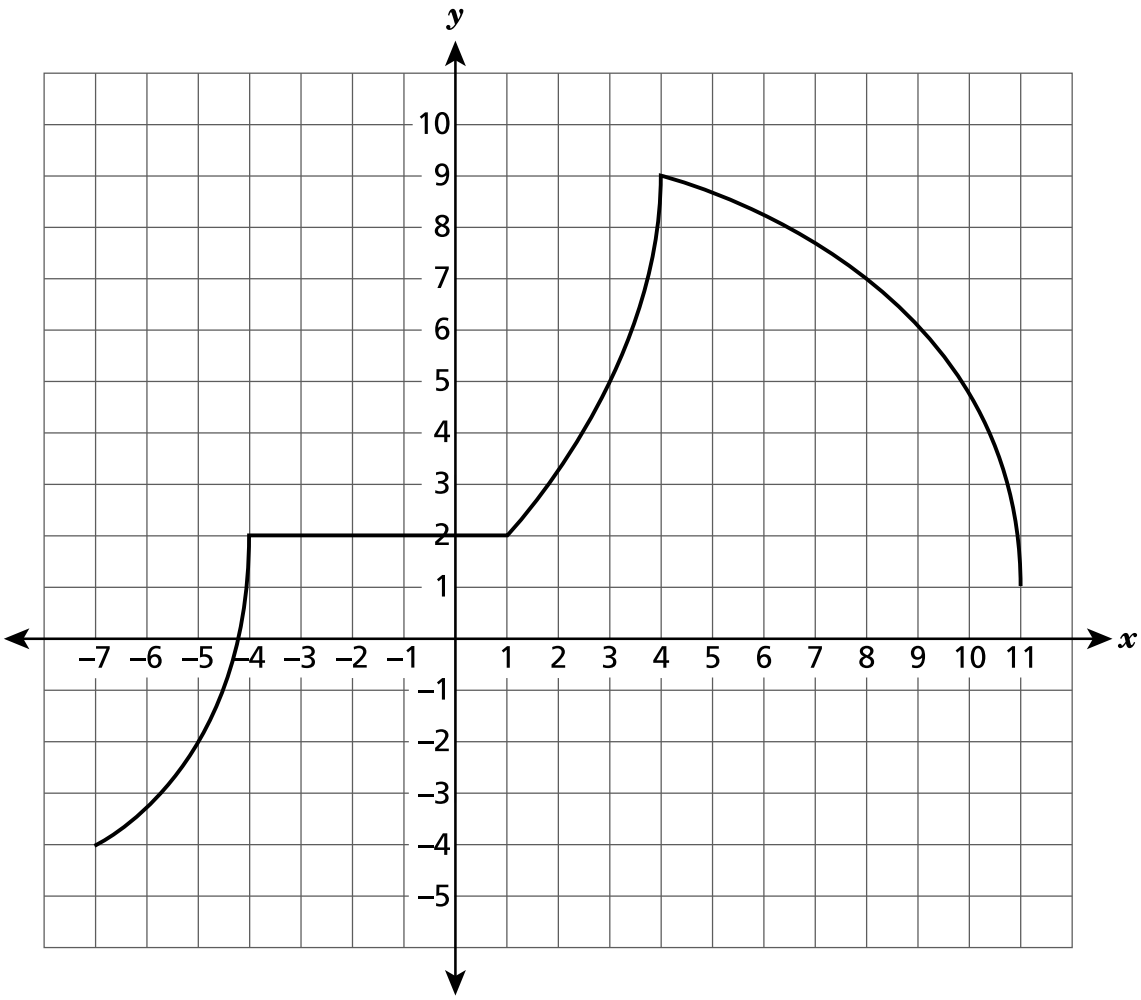
A 21

B 39

C 45

D 126

33 Yo endike graf yon fonksyon nan plan kowòdone ki pi ba a.



Ki deklarasyon ki dekri kòrèkteman fonksyon an sou yon sèten entèval?

A Fonksyon an ap diminye epi li non-lineyè ant $x = -7$ ak $x = -4$.

B Fonksyon an ap ogmante epi li lineyè ant $x = -4$ ak $x = 1$.

C Fonksyon an ap ogmante epi li lineyè ant $x = 1$ ak $x = 4$.

D Fonksyon an ap diminye epi li non-lineyè ant $x = 4$ ak $x = 11$.

KANPE LA

Ane 8
2019
Egzamen Matematik
Seyans 1
1–3 Me 2019

Grade 8
2019
Mathematics Test
Session 1
May 1–3, 2019

Non: _____

Haitian Creole Edition
Grade 8 2019
Mathematics Test
Session 2
May 1–3, 2019

Pwogram Egzamen Eta Nouyòk Egzamen Matematik Seyans 2

Ane 8

1–3 Me 2019

RELEASED QUESTIONS

Developed and published under contract with the New York State Education Department by Questar Assessment Inc., 5550 Upper 147th Street West, Minneapolis, MN 55124.

Ane 8 Fèy Referans Matematik

KONVÈSYON

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FÒMIL

Triyang	$A = \frac{1}{2}bh$
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Esfè	$V = \frac{4}{3}\pi r^3$
Kòn	$V = \frac{1}{3}\pi r^2 h$
Teyorèm Pitagò	$a^2 + b^2 = c^2$

Seyans 2

KONSÈY POU PRAN EGZAMEN AN

Men kèk sijesyon pou ede ou bay pi bon rannman:

- Li chak kesyon avèk atansyon epi reflechi sou chak repons anvan fè chwa ou oswa ekri repons ou.
- Yo ba w enstriman jeometri (yon règ, yon rapòtè ak yon kalkilatris) epi yon papye ki gen fòmil yo ladan pou w sèvi pandan egzamen an. Se oumenm k ap deside kilè chak enstriman ak fich referans lan ap ede w. Ou ka sèvi ak enstriman jeometri yo avèk papye fòmil la tou nenpòt ki lè w panse l ap ede w reponn yon kesyon.
- Pa bliye montre kijan w fè jwenn repons lan lè yo mande ou sa.

34 Ki gwoup pè òdone ki **pa** reprezante yon fonksyon?

A $\{(1,10),\ (3,18),\ (5,26),\ (7,34),\ (9,42)\}$

B $\{(2,10),\ (3,20),\ (4,15),\ (5,5),\ (6,25)\}$

C $\{(0,8),\ (5,4),\ (10,0),\ (15,4),\ (20,8)\}$

D $\{(9,1),\ (6,2),\ (3,3),\ (6,4),\ (9,5)\}$

35 Yo dekri de solid nan lis ki anba a.

- Yon solid se yon esfè epi li gen yon reyon 6 pous.
- Lòt solid la se yon silenn ak yon reyon 6 pous epi yon wotè 6 pous.

Ki diferans ki gen ant volim solid yo, an pous kib, pa rapò ak π?

A 72π

B 144π

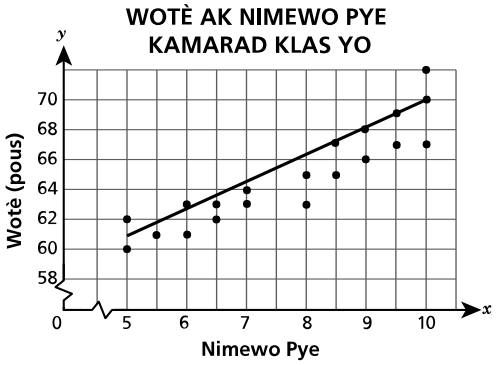
C 216π

D 288π

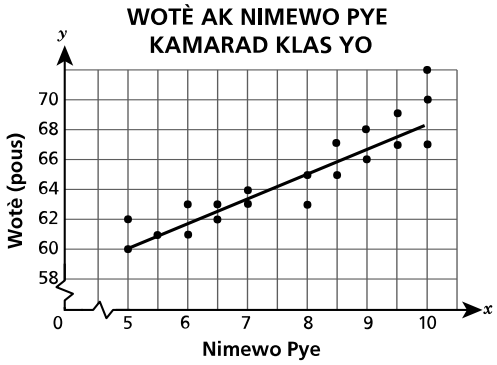
KONTINYE

36 Yo trase nimewo pye ak wotè 20 kamarad klas kòm pè òdone nan yon dyagram dispèsyon. Yo te trase yon dwat meyè ajisteman pou reprezante done yo. Ki dyagram dispèsyon ki montre dwat meyè ajisteman ki pi egzat la?

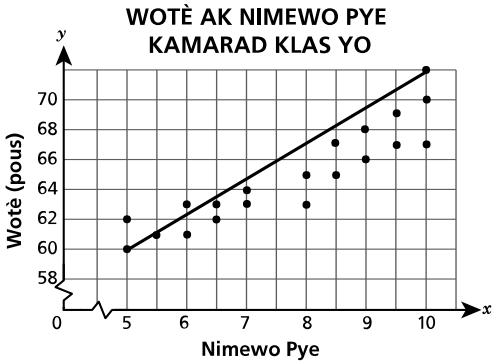
A



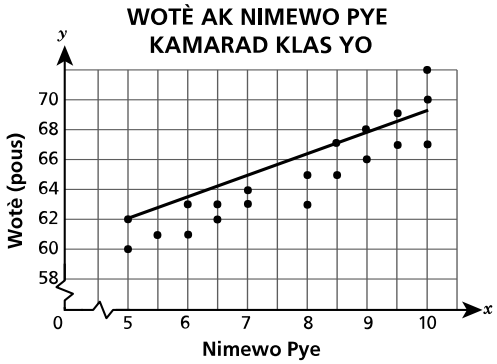
C



B



D



37 Ki ekspresyon ki ekivalan ak $\left(7^{-8}\right)\left(7^{3}\right)$?

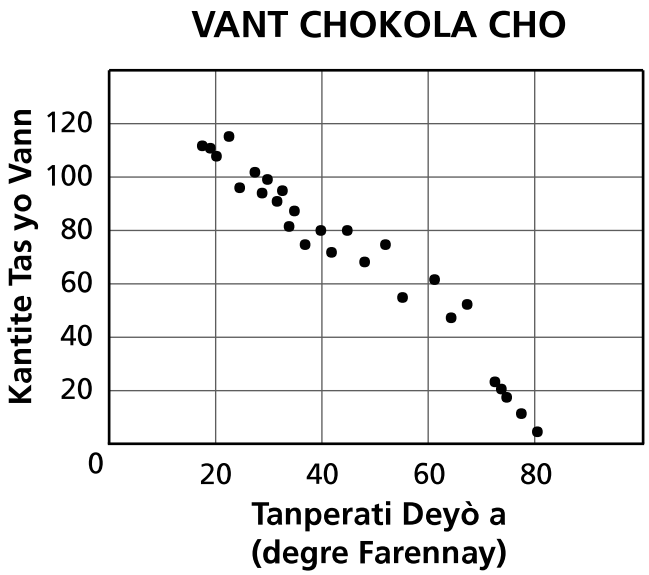
A 49^{-5}

B 49^{-11}

C 7^{-5}

D 7^{-11}

38 Dyagram dispèsyon ki pi ba a montre relasyon ant tanperati deyò a ak kantite tas chokola cho yo vann nan yon evènman.



Ki deklarasyon ki dekri done yo?

A Pa gen okenn asosyasyon ant tanperati deyò a, an degre Farennay, ak kantite tas chokola cho yo te vann.

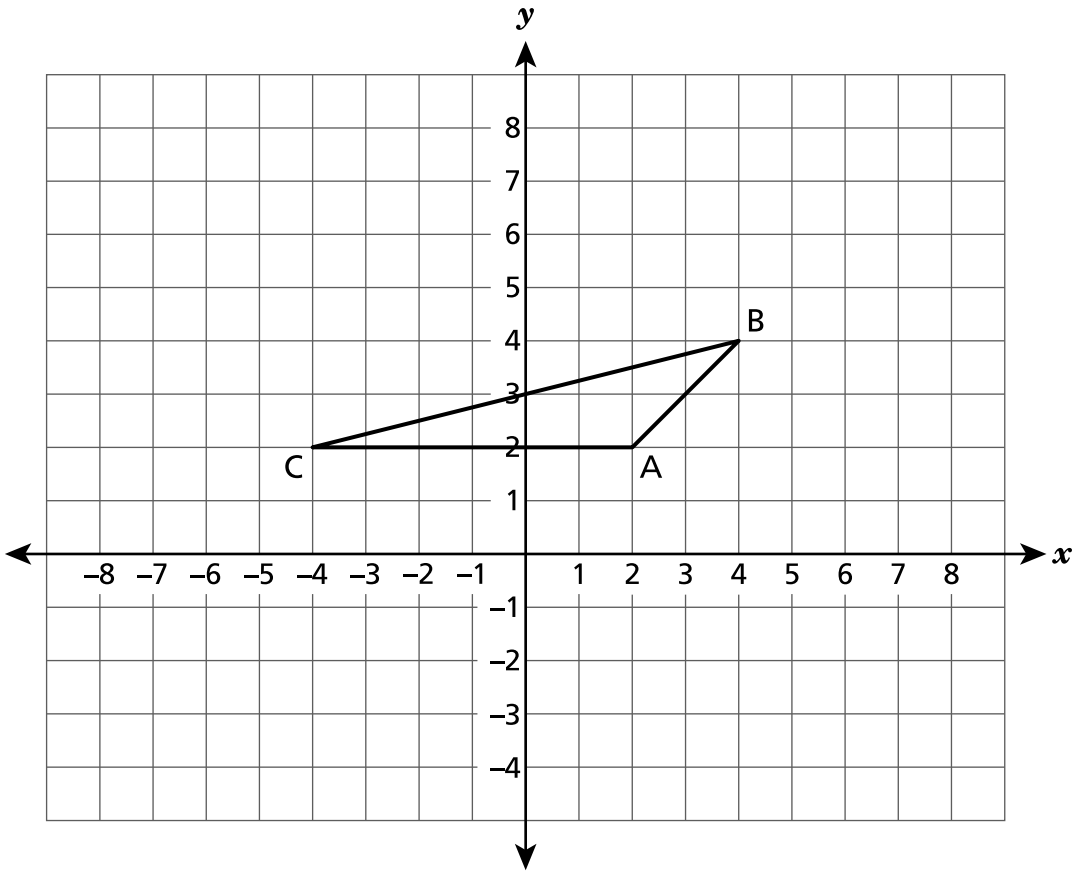
B Gen yon asosyasyon non-lineyè ant tanperati deyò a, an degre Farennay, ak kantite tas chokola cho yo te vann.

C Gen yon asosyasyon lineyè pozitif ant tanperati deyò a, an degre Farennay, ak kantite tas chokola cho yo te vann.

D Gen yon asosyasyon lineyè negatif ant tanperati deyò a, an degre Farennay, ak kantite tas chokola cho yo te vann.

KONTINYE

39 Triyang ABC reprezante sou yon plan kowòdone, jan li endike pi ba a.



Triyang ABC sibi yon dilatasyon pa mwayen yon faktè echèl 2 ak yon sant dilatasyon nan orijin nan pou kreye $\triangle A'B'C'$. Kisa ki kowòdone somè $\triangle A'B'C'$?

A $(1,1),\ (2,2),\ (-2,1)$

B $(4,2),\ (8,6),\ (-8,2)$

C $(4,4),\ (6,6),\ (-2,4)$

D $(4,4),\ (8,8),\ (-8,4)$

40 Ansanm pè òdone yo ki pi ba la a reprezante yon relasyon ki se yon fonksyon.

$\{(-2, 8),\ (4, 6),\ (10, 4)\}$

Ki pwen, lè ou ajoute l nan ansanm nan, t ap fòme yon relasyon ki **pa** yon fonksyon?

A $(0, 6)$

B $(4, 2)$

C $(-6, 8)$

D $(-8, 10)$

41 Yo endike apwoksimasyon sipèfisi de Eta pi ba a.

- Texas: $2,69 \times 10^5$ mil kare
- Rhode Island: $1,21 \times 10^3$ mil kare

Detèmine konbyen mil kare diferans ki genyen ant sipèfisi Texas ak sipèfisi Rhode Island. Ekri repons ou an nan notasyon syantifik.

Montre kijan ou fè pou jwenn repons lan.

Repons _____ mil kare

42 Ansanm pè òdone yo ki pi ba la a reprezante yon fonksyon lineyè.

$\{(-2,-3),\ (0,-2),\ (2,-1),\ (x,y)\}$

Kisa ki lòt pè kowòdone ki te ka mande nan pè òdone, (x,y), nan ansanm sa a?

Montre kijan ou fè pou jwenn repons lan.

Repons $x =$ _____

$y =$ _____

KONTINYE

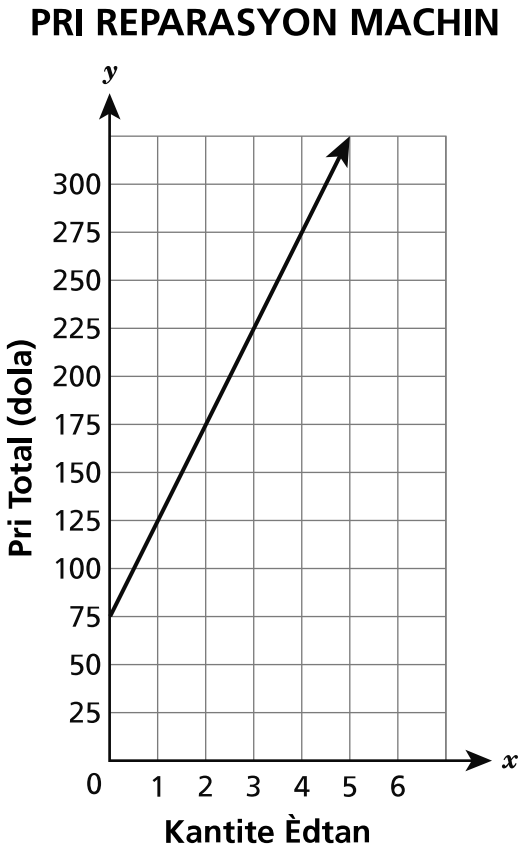
43 Rezoud sistèm ekwasyon ki pi ba a.

$$2x - 6y = -12$$
$$x + 2y = 14$$

Montre kijan ou fè pou jwenn repons lan.

Repons _____

44 Yon garaj reparasyon machin chaje yon pri pa èdtan ak yon frè pou vin chèche li. Graf ki pi ba a reprezante relasyon ant pri total pou reparasyon an, ki gen ladan frè pou vin chèche machin nan, ak kantite èdtan li pran pou garaj la fini ak reparasyon yo.



Ki ekwasyon ki reprezante fonksyon lineyè sa a?

Montre kijan ou fè pou jwenn repons lan.

Ekwasyon _____

KONTINYE

45 Billy ap konpare pri gaz nan de diferan ponp gaz yo.

- Nan premye ponp gaz la, ekwasyon $c = 2,80g$ bay relasyon ant g, kantite galon gaz, epi c, pri total la, an dola.
- Nan dezyèm ponp gaz la, pri $2,5$ galon gaz se $\$8,30$, epi pri 5 galon gaz se $\$16,60$.

Konbyen kòb Billy t ap ekonomize pa galon si li te ale nan ponp gaz ki pi bon mache a?

Montre kijan ou fè pou jwenn repons lan.

Repons $\$$_____ pa galon

46 Triyang ABC sibi yon seri twa transfòmasyon, ki bay yon triyang $\mathrm{A'B'C'}$. Yo endike twa transfòmasyon yo pi ba a.

- yon wotasyon 180° nan sans zegwi yon mont toutotou orijin nan
- yon refleksyon sou aks x
- yon refleksyon sou aks y

Triyang ABC gen somè A ki chita nan $(2, -3)$. Itilize kowòdone pwen sa a pou eksplike kijan twa transfòmasyon yo deziye somè A sou somè $\mathrm{A'}$.

Eksplike repons ou.

KONTINYE

47 De elèv, Matt ak Billy, yo chak te kalkile volim yon balon esfè ki gen yon dyamèt 15 santimèt. Yo montre travay yo pi ba a.

TRAVAY MATT	TRAVAY BILLY
Etap 1: $V = \frac{4}{3}\pi r^3$	Etap 1: $V = \frac{4}{3}\pi r^3$
Etap 2: $V = \frac{4}{3}\pi(15)^3$	Etap 2: $V = \frac{4}{3}\pi(7{,}5)^3$
Etap 3: $V = \frac{4}{3}\pi(3375)$	Etap 3: $V = \frac{4}{3}\pi\left(\frac{3375}{8}\right)$
Etap 4: $V = 4500\pi$	Etap 4: $V = \frac{1125}{2}\pi$

Ki elèv ki te fè yon erè, epi ki erè elèv la te fè?

Eksplike repons ou.

KONTINYE

48 De ekwasyon yo ki pi ba a reprezante fonksyon diferan.

Fonksyon P: $y = \frac{3}{x} + 2$

Fonksyon Q: $y = \frac{1}{3}x + 2$

Idantifye chak fonksyon kòm swa lineyè oswa non-lineyè. Di poukisa chak fonksyon swa lineyè oswa non-lineyè.

Fonksyon P _____

Endike rezon ou an.

_____

_____

_____

Fonksyon Q _____

Endike rezon ou an.

_____

_____

_____

KANPE LA

Ane 8
2019
Egzamen Matematik
Seyans 2
1–3 Me 2019

Grade 8
2019
Mathematics Test
Session 2
May 1–3, 2019

THE STATE EDUCATION DEPARTMENT
THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234
2019 Mathematics Tests Map to the Standards
Grade 8 Released Questions on EngageNY

Question	Type	Key	Points	Standard	Cluster	Subscore
Session 1						
1	Multiple Choice	B	1	CCSS.Math.Content.8.F.A.3	Functions	Functions
2	Multiple Choice	B	1	CCSS.Math.Content.8.EE.A.4	Expressions and Equations	Expressions and Equations
3	Multiple Choice	A	1	CCSS.Math.Content.8.F.B.4	Functions	Functions
4	Multiple Choice	A	1	CCSS.Math.Content.8.G.C.9	Geometry	Geometry
7	Multiple Choice	C	1	CCSS.Math.Content.8.F.A.3	Functions	Functions
8	Multiple Choice	D	1	CCSS.Math.Content.8.EE.B.6	Expressions and Equations	Expressions and Equations
9	Multiple Choice	C	1	CCSS.Math.Content.8.EE.A.4	Expressions and Equations	Expressions and Equations
11	Multiple Choice	C	1	CCSS.Math.Content.8.G.A.2	Geometry	Geometry
12	Multiple Choice	B	1	CCSS.Math.Content.8.EE.C.8b	Expressions and Equations	Expressions and Equations
13	Multiple Choice	D	1	CCSS.Math.Content.8.EE.C.8b	Expressions and Equations	Expressions and Equations
16	Multiple Choice	B	1	CCSS.Math.Content.8.G.A.4	Geometry	Geometry
17	Multiple Choice	C	1	CCSS.Math.Content.7.G.B.6	Geometry	Geometry
24	Multiple Choice	D	1	CCSS.Math.Content.8.SP.A.2	Statistics and Probability	
25	Multiple Choice	A	1	CCSS.Math.Content.8.EE.B.5	Expressions and Equations	Expressions and Equations
29	Multiple Choice	C	1	CCSS.Math.Content.8.EE.A.1	Expressions and Equations	Expressions and Equations
30	Multiple Choice	A	1	CCSS.Math.Content.8.F.A.2	Functions	Functions
31	Multiple Choice	C	1	CCSS.Math.Content.8.SP.A.1	Statistics and Probability	
32	Multiple Choice	C	1	CCSS.Math.Content.8.G.A.5	Geometry	Geometry
33	Multiple Choice	D	1	CCSS.Math.Content.8.F.B.5	Functions	Functions
Session 2						
34	Multiple Choice	D	1	CCSS.Math.Content.8.F.A.1	Functions	Functions
35	Multiple Choice	A	1	CCSS.Math.Content.8.G.C.9	Geometry	Geometry
36	Multiple Choice	C	1	CCSS.Math.Content.8.SP.A.2	Statistics and Probability	
37	Multiple Choice	C	1	CCSS.Math.Content.8.EE.A.1	Expressions and Equations	Expressions and Equations
38	Multiple Choice	D	1	CCSS.Math.Content.8.SP.A.1	Statistics and Probability	
39	Multiple Choice	D	1	CCSS.Math.Content.8.G.A.3	Geometry	Geometry

40	Multiple Choice	B	1	CCSS.Math.Content.8.F.A.1	Functions	Functions
41	Constructed Response		2	CCSS.Math.Content.8.EE.A.4	Expressions and Equations	Expressions and Equations
42	Constructed Response		2	CCSS.Math.Content.8.F.A.3	Functions	Functions
43	Constructed Response		2	CCSS.Math.Content.8.EE.C.8b	Expressions and Equations	Expressions and Equations
44	Constructed Response		2	CCSS.Math.Content.8.F.B.4	Functions	Functions
45	Constructed Response		2	CCSS.Math.Content.8.EE.B.5	Expressions and Equations	Expressions and Equations
46	Constructed Response		2	CCSS.Math.Content.8.G.A.3	Geometry	Geometry
47	Constructed Response		2	CCSS.Math.Content.8.G.C.9	Geometry	Geometry
48	Constructed Response		3	CCSS.Math.Content.8.F.A.3	Functions	Functions

*This item map is intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedural and conceptual understanding.