2014 TEXAS STAAR TEST – GRADE 6 - MATH

Total Possible Score: 52
Needed Correct to Pass: 22
Advanced Performance: 45

Time Limit: 4 Hours

This file contains the State of Texas Assessments of Academic Readiness administered in Spring, 2014, along with the answer key, learning objectives, and, for writing tests, the scoring guide. This document is available to the public under Texas state law. This file was created from information released by the Texas Education Agency, which is the state agency that develops and administers the tests. All of this information appears on the Texas Education Agency web site, but has been compiled here into one package for each grade and subject, rather than having to download pieces from various web pages.

The number of correct answers required to "pass" this test is shown above. Because of where the "passing" score is set, it may be possible to pass the test without learning some important areas of study. Because of this, I believe that making the passing grade should not be considered "good enough." A student's goal should be to master each of the objectives covered by the test. The "Advanced Performance" score is a good goal for mastery of all the objectives.

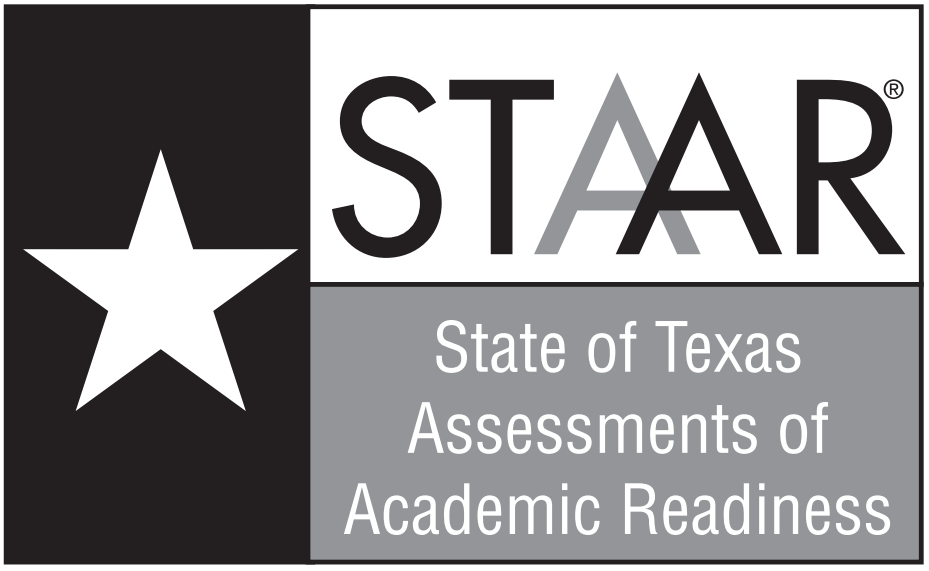
The test in this file may differ somewhat in appearance from the printed version, due to formatting limitations. Since STAAR questions are changed each year, some proposed questions for future tests are included in each year's exams in order to evaluate the questions. Questions being evaluated for future tests do not count toward a student's score. Those questions are also not included in the version of the test made available to the public until after they used as part of the official test.

Questions and comments about the tests should be directed to:
Texas Education Agency
Student Assessment Division
1701 N. Congress Ave, Room 3-122A
Austin, Texas 78701
phone: 512-463-9536
email: Student.Assessment@tea.state.tx.us

Hard copies of the released tests (including Braille) may be ordered online through Pearson Education at http://www.texasassessment.com/publications/ or by calling 866-447-3577.

When printing released questions for mathematics, make sure the Print Menu is set to print the pages at 100% to ensure that the art reflects the intended measurements.

For comments and questions about this file or the web site, you can e-mail me at scott@scotthochberg.com. Please direct any questions about the content of the test to the Texas Education Agency at the address above. To download additional tests, go to www.scotthochberg.com.



GRADE 6

Mathematics

Administered April 2014

RELEASED

STAAR GRADE 6 MATHEMATICS REFERENCE MATERIALS

LENGTH

Customary	Metric
1 mile (mi) = 1,760 yards (yd)	1 kilometer (km) = 1,000 meters (m)
1 yard (yd) = 3 feet (ft)	1 meter (m) = 100 centimeters (cm)
1 foot (ft) = 12 inches (in.)	1 centimeter (cm) = 10 millimeters (mm)

VOLUME AND CAPACITY

Customary	Metric
1 gallon (gal) = 4 quarts (qt)	1 liter (L) = 1,000 milliliters (mL)
1 quart (qt) = 2 pints (pt)	
1 pint (pt) = 2 cups (c)	
1 cup (c) = 8 fluid ounces (fl oz)	

WEIGHT AND MASS

Customary	Metric
1 ton (T) = 2,000 pounds (lb)	1 kilogram (kg) = 1,000 grams (g)
1 pound (lb) = 16 ounces (oz)	1 gram (g) = 1,000 milligrams (mg)

TIME

1 year = 12 months

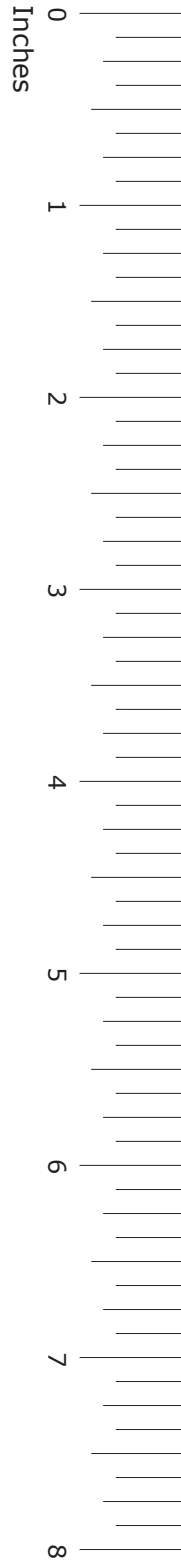
1 year = 52 weeks

1 week = 7 days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds



STAAR GRADE 6 MATHEMATICS REFERENCE MATERIALS

PERIMETER			
Square			$P = 4s$
Rectangle			$P = 2l + 2w$
CIRCUMFERENCE			
Circle	$C = 2\pi r$	or	$C = \pi d$
AREA			
Triangle	$A = \frac{bh}{2}$	or	$A = \frac{1}{2}bh$
Square			$A = s^2$
Rectangle	$A = lw$	or	$A = bh$
Parallelogram			$A = bh$
Trapezoid	$A = \frac{(b_1 + b_2)h}{2}$	or	$A = \frac{1}{2}(b_1 + b_2)h$
Circle			$A = \pi r^2$
VOLUME			
Cube			$V = s^3$
Rectangular prism	$V = lwh$	or	$V = Bh$
ADDITIONAL INFORMATION			
Pi			$\pi \approx 3$

MATHEMATICS

DIRECTIONS

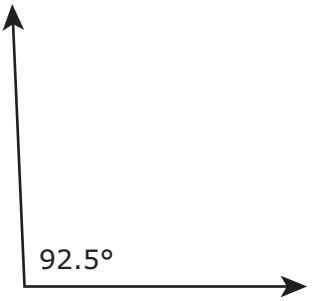
Read each question carefully. For a multiple-choice question, determine the best answer to the question from the four answer choices provided. For a griddable question, determine the best answer to the question. Then fill in the answer on your answer document.

1 Bert drew an angle that has the characteristics listed below.

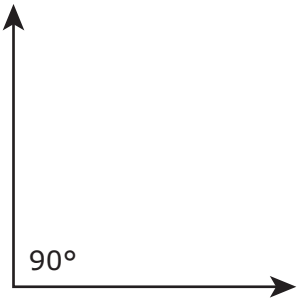
- It has a measure greater than 88.5°.
- It is an obtuse angle.

Which of the following could be the angle Bert drew?

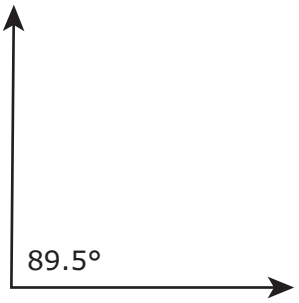
A



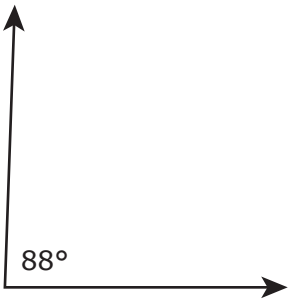
C



B



D



GO ON

2 Which situation is best represented by the integer -14?

F A grocery store clerk helps 14 times as many customers as another clerk.

G A coach divides the players on his team into 14 equal groups.

H A mail carrier delivers mail to 14 additional houses not on his normal mail route.

J A carpenter shortens the length of a board by 14 inches.

GO ON

3 Felix is reading the sign below in order to decide when to go to a violin lesson.

The list below shows some of the possible outcomes of 1 day and 1 time to have a violin lesson.

Monday	Wednesday	Tuesday
|	|	|
Morning	Afternoon	Evening

Which list shows all the other possible outcomes of 1 day and 1 time to have a lesson?

A

Monday	Tuesday	Wednesday
|	|	|
Morning	Afternoon	Evening

B

Wednesday	Thursday
|	|
Morning	Evening

C

Wednesday	Monday	Thursday
|	|	|
Morning	Afternoon	Evening

D

Wednesday	Thursday
|	|
Morning	Afternoon

GO ON

4 There are 176 slices of bread in 8 loaves. If there are the same number of slices in each loaf, how many slices of bread are in 5 loaves?

F 110

G 173

H 100

J 163

---

5 Xavier has a group of rectangular prisms. Each rectangular prism has a volume of 128 cubic centimeters and a height of 2 centimeters. The table shows the relationship between each prism's length, l, and width, w.

Rectangular Prisms

Width, w (centimeters)	Length, l (centimeters)
1	64
2	32
4	16
8	8

Which equation can Xavier use to find the length, l, in centimeters of a prism that has a width of w centimeters?

A $\frac{128}{2} = l + w$

B $2 \times 128 = l \times w$

C $\frac{128}{2} = l \times w$

D $2 + 128 = l \times w$

GO ON

6 Gracie borrowed $92 from her father. She has already paid back $12. She will pay him another $16 on Monday and then make equal payments of $4 until the rest of the money has been repaid. The expression below can be used to find the number of equal payments Gracie will need to make in order to repay the money.

$$\frac{92 - (12 + 16)}{4}$$

How many equal payments will Gracie need to make in order to repay the money?

F 24

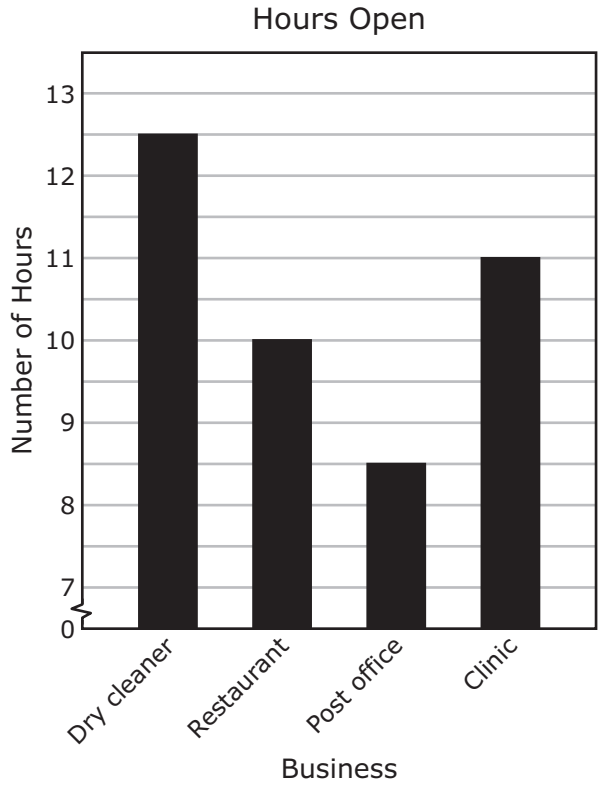
G 16

H 5

J 27

GO ON

7 The graph shows the number of hours that four businesses were open on Friday.



Based on the information in the graph, which statement could be true?

A The dry cleaner opened at 6:15 A.M. and closed at 6:15 P.M.

B The restaurant opened at 11:45 A.M. and closed at 9:30 P.M.

C The post office opened at 9:00 A.M. and closed at 6:00 P.M.

D The clinic opened at 7:30 A.M. and closed at 6:30 P.M.

GO ON

8 Yasir drilled a circular hole that had a diameter of 8 millimeters. Which equation can be used to find r, the radius of the circular hole in millimeters?

F $8 = \frac{r}{2}$

G $8 = 2 \times r$

H $8 = \frac{r}{\pi}$

J $8 = 2 \times \pi \times r$

---

9 On Tuesday morning a school cafeteria served 16 gallons of orange juice during breakfast. How many cups are in 16 gallons?

A 256 cups

B 64 cups

C 2,048 cups

D 128 cups

GO ON

10 The value of g can be determined using the expression $r - \frac{9}{8}$. Which table represents the relationship between the values of g and r?

F

r	*g*
$\frac{39}{8}$	$\frac{38}{8}$
$\frac{30}{8}$	$\frac{29}{8}$
$\frac{21}{8}$	$\frac{20}{8}$
$\frac{12}{8}$	$\frac{11}{8}$

H

r	*g*
3	$4\frac{1}{8}$
$3\frac{1}{8}$	$4\frac{2}{8}$
$3\frac{2}{8}$	$4\frac{3}{8}$
$3\frac{3}{8}$	$4\frac{4}{8}$

G

r	*g*
8	$6\frac{7}{8}$
$8\frac{1}{8}$	7
$8\frac{2}{8}$	$7\frac{1}{8}$
$8\frac{3}{8}$	$7\frac{2}{8}$

J

r	*g*
$\frac{39}{8}$	$\frac{40}{8}$
$\frac{30}{8}$	$\frac{31}{8}$
$\frac{21}{8}$	$\frac{22}{8}$
$\frac{12}{8}$	$\frac{13}{8}$

GO ON

11 Ryan had a whole pizza. He ate $\frac{1}{8}$ of the pizza for lunch and another 25% of the pizza for dinner. What fraction of the pizza has Ryan NOT eaten?

A $\frac{5}{6}$

B $\frac{5}{8}$

C $\frac{1}{4}$

D $\frac{3}{8}$

---

12 A hummingbird weighed w ounces. One day the hummingbird drank 8 times its weight in water and ate half its weight in food. Which equation can be used to find t, the combined weight of the water and the food, in ounces, that the hummingbird had on this day?

F $t = w + 8 - \frac{1}{2}$

G $t = w + 8 + \frac{1}{2}$

H $t = 8w + \frac{w}{2}$

J $t = 2w + \frac{w}{8}$

GO ON

13 Ms. Porter had eight parties at her house last year. The number of guests at each party is shown below.

15, 19, 9, 27, 21, 21, 10, 14

What is the median number of guests at these parties?

A 17

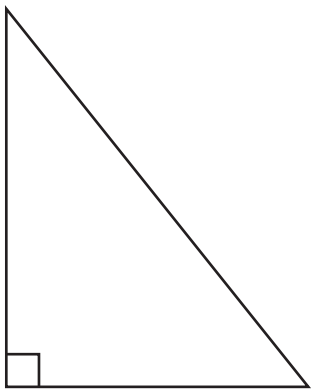
B 24

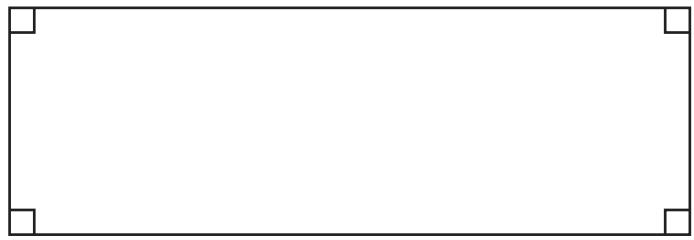
C 18

D 21

---

14 Use the ruler provided to measure the two figures below to the nearest centimeter.





Which of the following is closest to the combined areas of these figures in square centimeters?

F 31 cm^2

G 55 cm^2

H 37 cm^2

J 47 cm^2

GO ON

15 Mrs. Stephens drove through a total of 36 intersections on her way home from work last week. At 4 of every 16 intersections, Mrs. Stephens had to stop for a red light before she could drive through. At how many intersections did Mrs. Stephens have to stop for a red light?

A 3

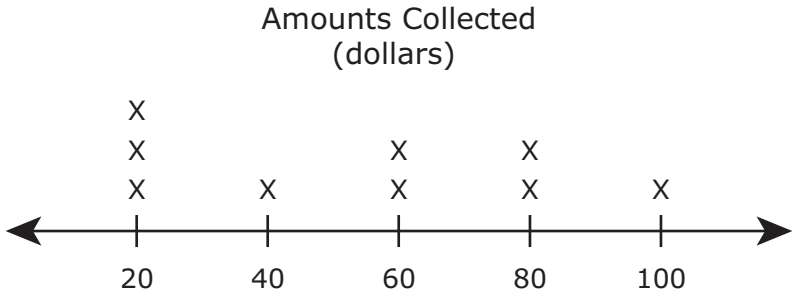
B 9

C 24

D 12

---

16 The 10 members of an art club collected a total of $520 during a fund-raiser. The amounts collected by 9 of the members are represented on the line plot below.

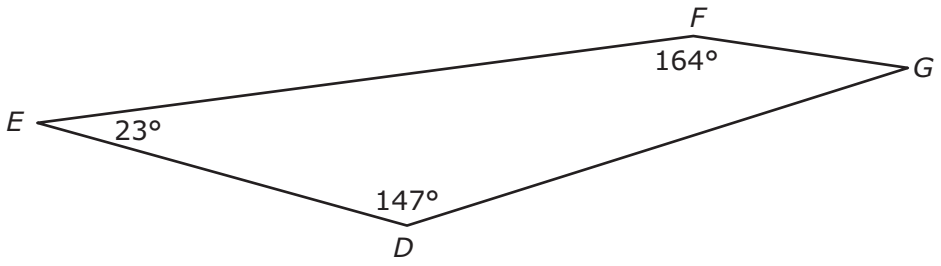


How many dollars were collected by the tenth member of the art club?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

GO ON

17 What is the measure of $\angle G$ in the polygon below?



A 16°

B 23°

C 33°

D 26°

---

18 A sea turtle made 460 dives in 12 hours. At this rate, how many dives did the sea turtle make in 3 hours?

F 153

G 115

H 120

J 165

GO ON

19 A cylindrical barrel has a diameter of 19.875 inches. Which of the following is the best estimate of the circumference of the barrel in feet?

A 10 ft

B 2 ft

C 5 ft

D 1 ft

---

20 Jackson has 180 pieces of gum. He wants to share the pieces of gum equally with his friends. Which table shows the relationship between n, the number of people who receive gum, and p, the number of pieces of gum each person receives?

F

Gum

Number of People, n	Number of Pieces, p
2	90
4	45
6	30
12	15

H

Gum

Number of People, n	Number of Pieces, p
2	360
4	720
6	1,080
12	2,160

G

Gum

Number of People, n	Number of Pieces, p
10	170
20	160
30	150
40	140

J

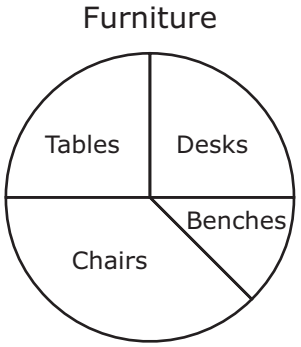
Gum

Number of People, n	Number of Pieces, p
10	18
20	16
30	14
40	12

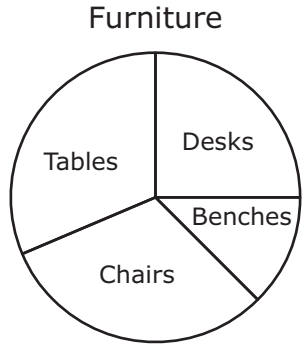
GO ON

21 There are 80 pieces of furniture for sale at a store. Of these pieces of furniture, 20 are desks and 10 are benches. The rest are chairs and tables. The ratio of the number of chairs to the number of tables is 3 to 2. Which circle graph best represents the pieces of furniture for sale at the store?

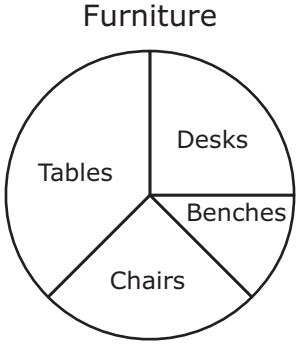
A



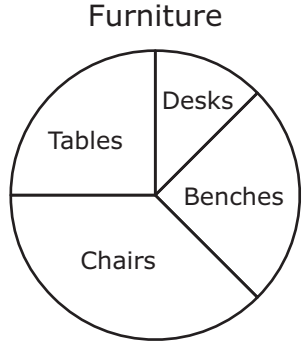
C



B



D



GO ON

22 An electric eel has a length of 1.84 meters. What fraction is equivalent to the length of this electric eel in meters?

F $1\frac{84}{10}$ m

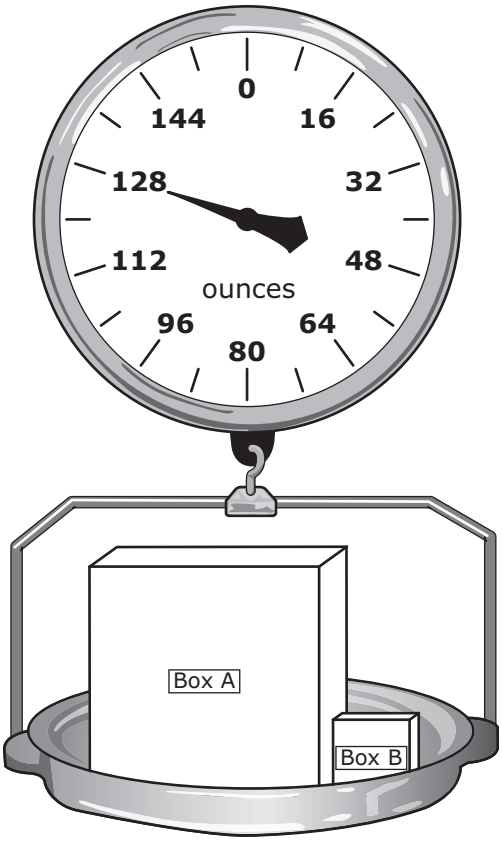
G $\frac{92}{500}$ m

H $1\frac{21}{25}$ m

J Not here

GO ON

23 Rob weighed 2 boxes. The combined weight of the boxes is shown on the scale below.



The ratio of the weight of Box A to the weight of Box B is 3:1. Which of the following is closest to the weight of Box A?

A 126 oz

B 42 oz

C 32 oz

D 96 oz

GO ON

24 The air temperature in Mrs. Stokes's classroom was 90°F at 7:00 A.M. She turned on the air conditioner, and the air temperature decreased 2°F every 10 minutes for the next hour. By 8:30 A.M., the air temperature had decreased another 4°F. The expression below can be used to determine the air temperature in Mrs. Stokes's classroom at 8:30 A.M.

$$90 - 2(60 \div 10) - 4$$

What was the air temperature in Mrs. Stokes's classroom at 8:30 A.M.?

F 74°F

G 70°F

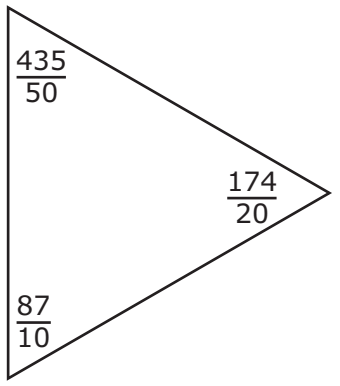
H 86°F

J 82°F

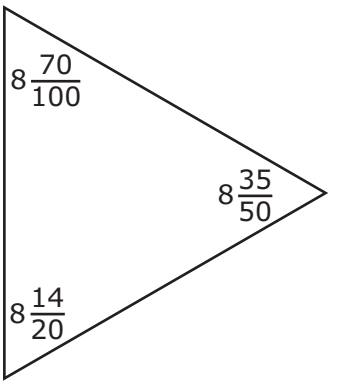
GO ON

25 Two sets of numbers are shown below.

Set J



Set K



Which statement is true?

A The number 8.7 is equivalent to each number in Set K but not each number in Set J.

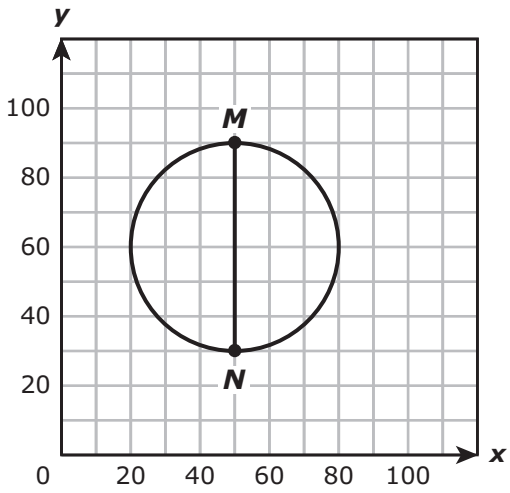
B The number 8.7 is equivalent to each number in Set J and Set K.

C The number 8.070 is equivalent to each number in Set K but not each number in Set J.

D The number 8.070 is equivalent to each number in Set J and Set K.

GO ON

26 Line segment *NM* passes through the center of the circle shown on the coordinate grid below.



Which equation can be used to find *C*, the circumference of the circle in units?

F $C = \pi \cdot 60$

G $C = 2 \cdot \pi \cdot 60$

H $C = \frac{120}{2}$

J $C = \frac{60}{2}$

GO ON

27 Lindsey spent $2\frac{1}{3}$ hours in a science lab on Wednesday.

- She spent $\frac{3}{4}$ hour preparing materials for an experiment.
- She spent $\frac{5}{6}$ hour conducting the experiment.
- She spent the rest of the time cleaning her lab station.

Based on this information, which statement is true?

A Lindsey spent $1\frac{8}{15}$ hours cleaning her lab station.

B Lindsey spent $\frac{2}{3}$ hour preparing materials and conducting the experiment.

C Lindsey spent the same amount of time conducting the experiment as she spent cleaning her lab station.

D Lindsey spent $\frac{1}{12}$ hour more conducting the experiment than she spent preparing materials for the experiment.

28 Metal and glass make up 100% of a sculpture. If g represents the percentage of the sculpture that is made of glass, which equation can be used to find m, the percentage of the sculpture that is made of metal?

F $g - 100 = m$

G $100 - g = m$

H $\frac{g}{100} = m$

J $100 + g = m$

---

29 Shen and David each washed a car.

- Shen spent 5 minutes washing his car for every 2 minutes David spent washing his car.
- Each boy started washing his car at 4:00 P.M.
- David finished washing his car at 4:30 P.M.

At what time did Shen finish washing his car?

A 4:12 P.M.

B 4:33 P.M.

C 5:15 P.M.

D Not here

GO ON

30 In triangle *ABC*, the measure of angle *A* is 70°. Angle *B* is congruent to angle *C*. What is the measure of angle *B* in degrees?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

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31 The list shows the amount of each ingredient Charlotte used to make 3 servings of macaroni and cheese.

- 12 ounces of macaroni
- 1 egg
- 2 cups of milk
- $2\frac{1}{2}$ cups of cheddar cheese

Based on this information, which statement is NOT true?

A To make 6 servings, Charlotte should use 5 cups of cheddar cheese.

B To make 24 servings, Charlotte should use 96 ounces of macaroni.

C To make 12 servings, Charlotte should use 4 eggs.

D To make 9 servings, Charlotte should use 8 cups of milk.

GO ON

32 What is the prime factorization of 99?

F $3^2 \cdot 11$

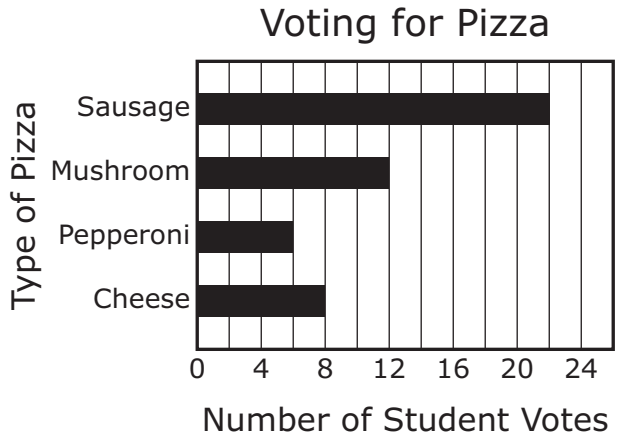
G $3^3 \cdot 11$

H $9 \cdot 11$

J Not here

GO ON

33 The graph below shows the number of students in a math club who voted for each of four types of pizza.



Which statement is best supported by the graph?

A The number of students who voted for mushroom pizza is 2 times the number of students who voted for sausage pizza.

B The number of students who voted for sausage pizza is 13 more than the number of students who voted for cheese pizza.

C The number of students who voted for pepperoni pizza is 6 fewer than the number of students who voted for mushroom pizza.

D The number of students who voted for cheese pizza is 1 more than the number of students who voted for pepperoni pizza.

GO ON

34 The table shows a relationship between some values of p and v.

p	7.2	7.4	7.6	7.8
v	17.3	17.5	17.7	17.9

Based on the table, which expression represents any value of v in terms of its corresponding value of p?

F $p - \frac{2}{10}$

G $p - 10\frac{1}{10}$

H $p + \frac{2}{10}$

J $p + 10\frac{1}{10}$

---

35 Which number is a common multiple of 4 and 11?

A 176

B 36

C 154

D 22

GO ON

36 At a zoo 5% of the birds are macaws. What decimal is equivalent to 5%?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

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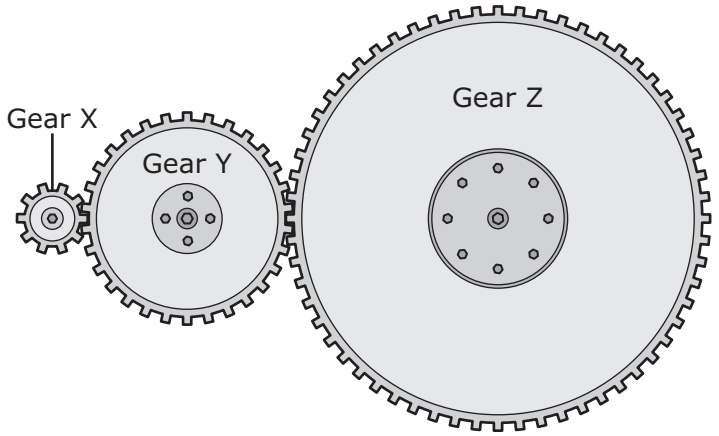
37 Three connected gears are shown below.



- For every complete rotation of Gear Z, Gear Y makes 2 complete rotations.
- For every complete rotation of Gear Y, Gear X makes 3 complete rotations.

Based on this information, what is the number of complete rotations Gear Z will make when Gear X makes 912 complete rotations?

A 456

B 608

C 152

D 304

GO ON

38 The stem and leaf plot shows the length of several hermit crabs.

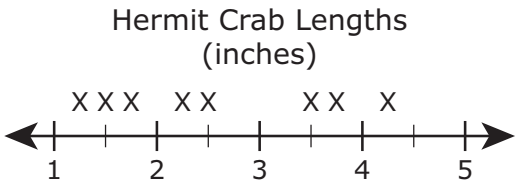
Hermit Crab Lengths
(inches)

Stem	Leaf
1	25 50 75
2	25 25 50 50
3	50 75 75
4	25 25

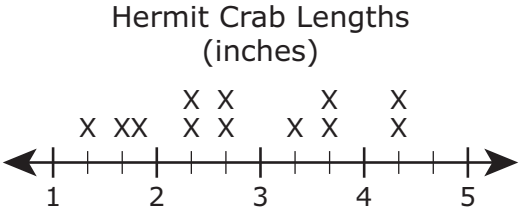
KEY
2 | 25 = 2.25 inches

Which line plot best represents the data in the stem and leaf plot?

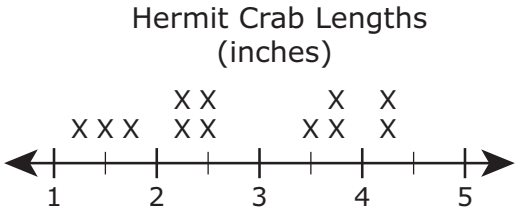
F



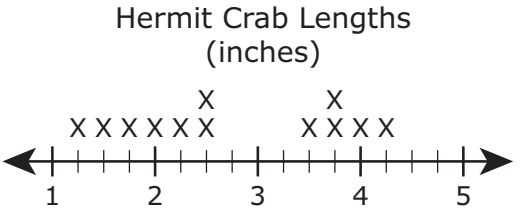
H



G

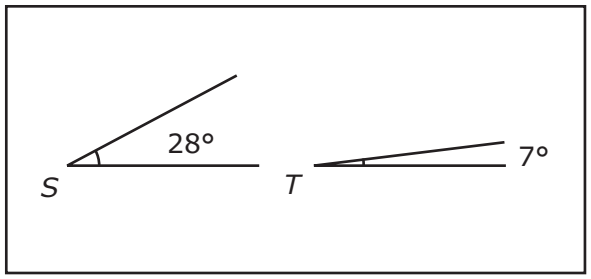


J

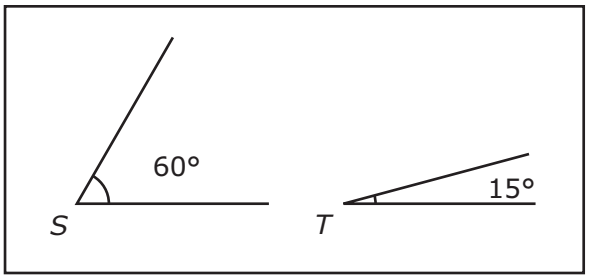


GO ON

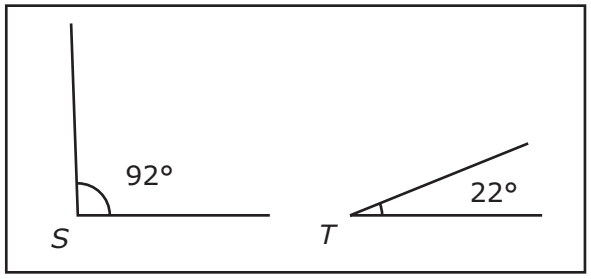
39 Four sets of angles are shown below.



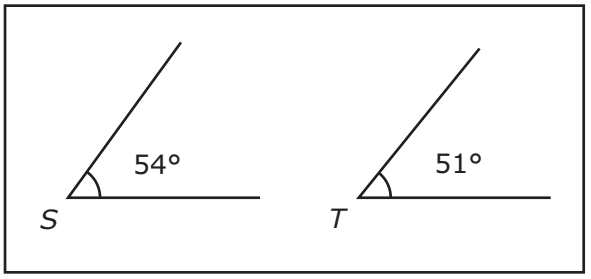
Set I



Set II



Set III



Set IV

In which of the sets is there a ratio of 4:1 between the measure of angle *S* and the measure of angle *T*?

A Set I only

B Sets I, II, III, and IV

C Sets I and II only

D Set IV only

GO ON

40 A farmer has a bale of hay with a mass of 36 kilograms. How many milligrams of hay are in the bale?

F 36,000,000 mg

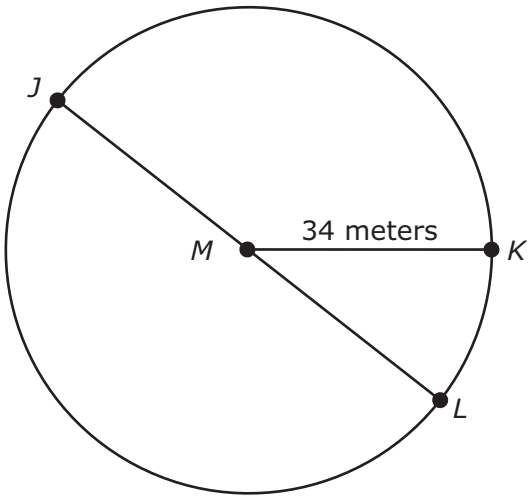
G 36,000 mg

H 3,600,000 mg

J 360,000 mg

---

41 The center of the circle below is point *M*.



Which expression can be used to find the length of $\overline{JL}$ in meters?

A $2 \times \pi \times 34$

B 2×34

C $34 \times \pi$

D $34 \div 2$

GO ON

42 Enrique bought a football and a puzzle at a store.

- He paid $15.35 for the football.
- He paid a total of $24.02 for the football and the puzzle.

How much did Enrique pay for the puzzle, in dollars and cents?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

---

43 One week a family drank p pints of milk. Which equation can be used to find the number of gallons of milk, g, the family drank that week?

A $p = g \div 4$

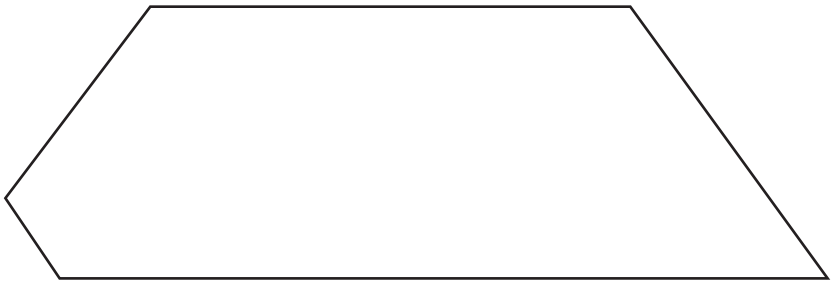
B $p = g \div (4 \times 2)$

C $g = p \div 4$

D $g = p \div (4 \times 2)$

GO ON

44 The figure below is a scale drawing of a warehouse floor. Use the ruler provided to measure the dimensions of the figure to the nearest $\frac{1}{4}$ inch.



Scale
1 inch : 16 feet

Which of the following is closest to the perimeter of the actual warehouse floor in feet?

F 10 feet

G 160 feet

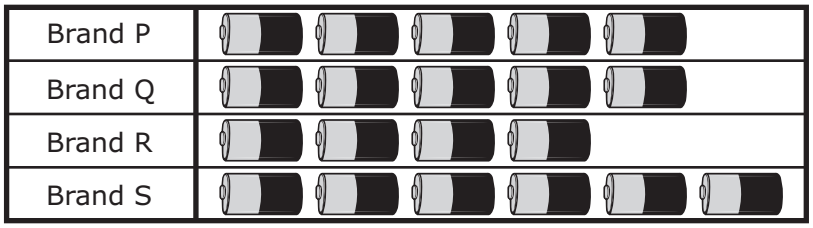
H 192 feet

J 26 feet

GO ON

45 The pictograph below shows the number of packages of different brands of batteries that a store sold on Friday.

Batteries Sold



Each  represents 250 packages.

Which statement is best supported by the information in the pictograph?

A The ratio of Brand P batteries to Brand Q batteries is 1:2.

B The ratio of Brand R batteries to the total number of batteries is 5:1.

C Of all the packages of batteries sold, 20% were Brand R batteries.

D Of all the packages of batteries sold, 3% were Brand S batteries.

---

46 There are a total of 950 boxes of shoes at a store.

- Half of the boxes contain athletic shoes.
- Another 125 boxes contain dress shoes.
- Of the remaining boxes of shoes, 4 out of 5 boxes contain sandals.

Based on the expression below, how many boxes at the store contain sandals?

$$4(950 \div 2 - 125) \div 5$$

F 280

G 355

H 450

J 255

GO ON

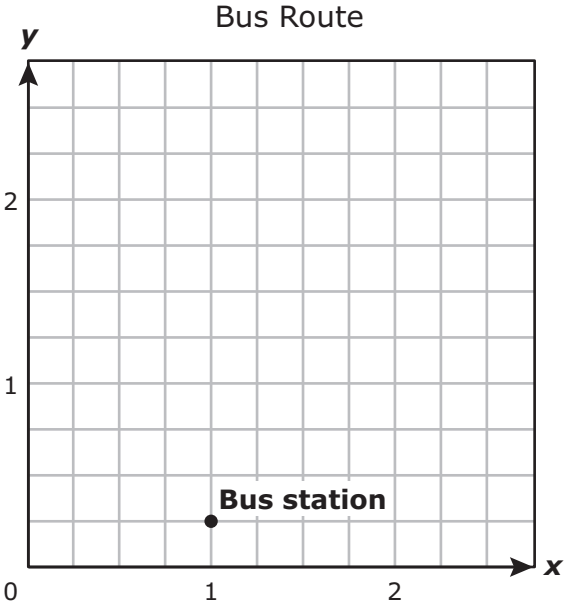
47 The ordered pairs below represent the location of 4 stops on a bus route.

Stop K $(\frac{3}{4}, \frac{7}{4})$

Stop L $(\frac{4}{4}, \frac{8}{4})$

Stop M $(\frac{8}{4}, \frac{5}{4})$

Stop N $(\frac{7}{4}, \frac{3}{4})$



The location of the bus station is shown on the coordinate grid. Which stop is closest to the bus station?

A Stop K

B Stop L

C Stop M

D Stop N

---

48 Freddie used 28 nails to make birdhouses. He used the same number of nails for each birdhouse. Which of the following CANNOT be the number of birdhouses Freddie made?

F 4

G 6

H 7

J 2

GO ON

49 Quinlan pays $178 every 4 months for his guitar lessons. At this rate, how much will Quinlan pay for 3 years of guitar lessons?

A $534

B $2,136

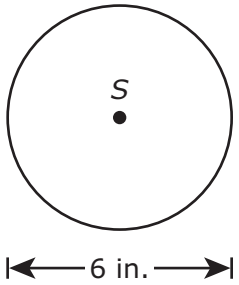
C $1,602

D $712

---

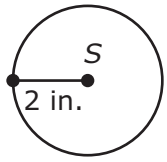
50 Raja drew a circle and labeled the center *S*. He used the expression $12 \cdot \pi$ to find the circumference of the circle in inches. Which of the following could be the circle Raja drew?

F

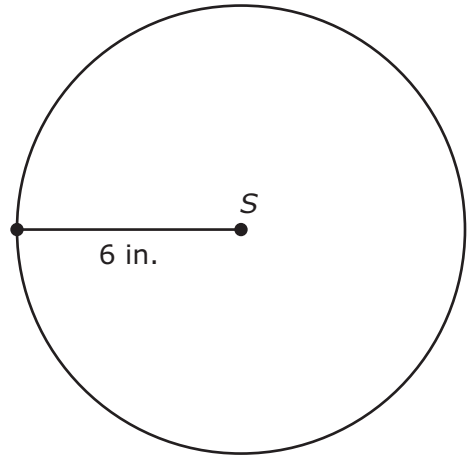


H

G



J



GO ON

51 Which equation is true?

A $0.9 = \frac{90}{100}$

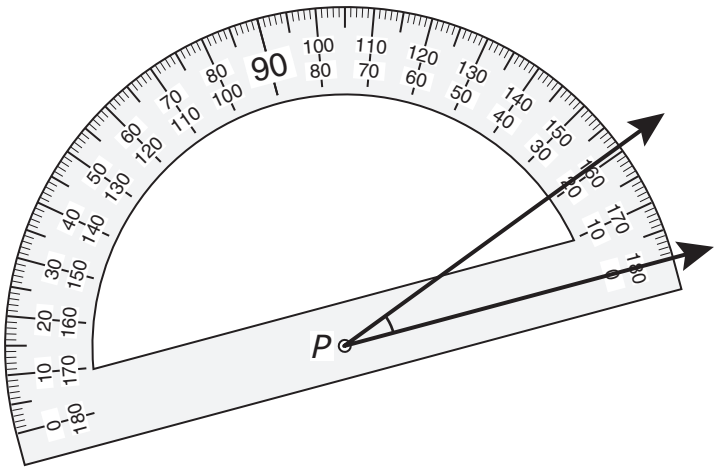
B $\frac{12}{10} = 1.02$

C $1.9 = \frac{9}{100}$

D $\frac{18}{9} = 0.2$

---

52 In the diagram below, what is the measure of angle *P* to the nearest degree?



F 21°

G 159°

H 39°

J 161°

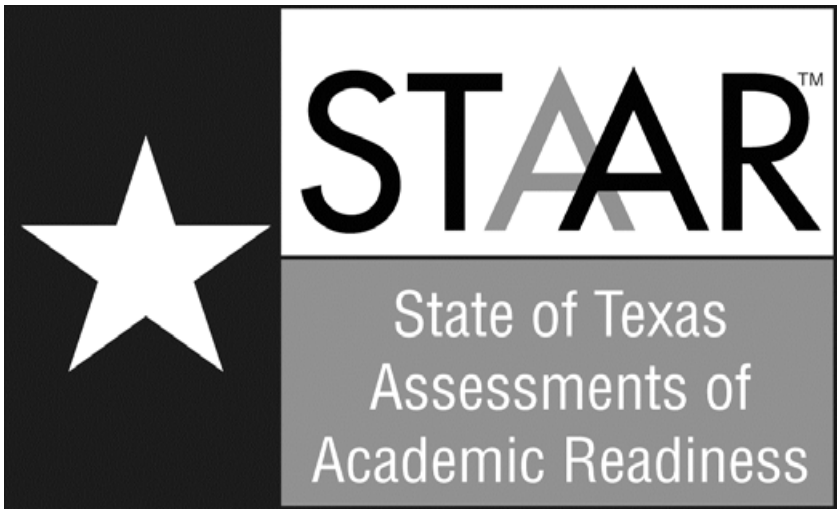
BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON THE ANSWER DOCUMENT.

STOP

STAAR
GRADE 6
Mathematics
April 2014

866194 1 2 3 4 5 A B C D E Printed in the USA ISD7195

Item Number	Reporting Category	Readiness or Supporting	Content Student Expectation	Process Student Expectation	Correct Answer
1	3	Supporting	6.6(A)	6.11(B)	A
2	1	Supporting	6.1(C)	6.12(A)	J
3	5	Supporting	6.9(A)	6.11(C)	C
4	1	Readiness	6.2(C)	6.11(A)	F
5	2	Supporting	6.4(B)	6.12(A)	C
6	1	Readiness	6.2(E)	6.11(A)	G
7	5	Readiness	6.10(D)	6.12(A)	D
8	3	Readiness	6.6(C)	6.12(A)	G
9	4	Supporting	6.8(D)	6.11(A)	A
10	2	Readiness	6.4(A)	6.12(A)	G
11	1	Readiness	6.2(B)	6.11(A)	B
12	2	Readiness	6.5(A)	6.12(A)	H
13	5	Supporting	6.10(B)	6.11(A)	A
14	4	Readiness	6.8(B)	6.11(D)	H
15	1	Readiness	6.2(C)	6.11(A)	B
16	5	Readiness	6.10(D)	6.12(A)	40
17	3	Supporting	6.6(B)		D
18	2	Readiness	6.3(C)	6.11(A)	G
19	4	Supporting	6.8(A)	6.11(B)	C
20	2	Readiness	6.4(A)	6.12(A)	F
21	5	Supporting	6.10(C)	6.12(A)	A
22	1	Readiness	6.1(B)		H
23	4	Readiness	6.8(B)	6.11(C)	D
24	1	Readiness	6.2(E)	6.11(A)	F
25	1	Readiness	6.1(B)	6.13(A)	B
26	3	Readiness	6.6(C)	6.11(D)	F
27	1	Readiness	6.2(B)	6.11(A)	D
28	2	Readiness	6.5(A)	6.12(A)	G
29	4	Readiness	6.8(B)	6.11(C)	C
30	3	Supporting	6.6(B)	6.11(C)	55
31	2	Readiness	6.3(C)	6.11(A)	D
32	1	Supporting	6.1(D)		F
33	5	Readiness	6.10(D)		C
34	2	Readiness	6.4(A)	6.12(A)	J
35	1	Supporting	6.1(F)		A
36	2	Supporting	6.3(B)		0.05
37	1	Readiness	6.2(C)	6.11(B)	C
38	5	Supporting	6.10(A)	6.12(A)	G
39	2	Supporting	6.3(A)	6.13(A)	C
40	4	Supporting	6.8(D)	6.11(A)	F
41	3	Readiness	6.6(C)		B
42	1	Readiness	6.2(B)	6.11(A)	8.67
43	2	Readiness	6.5(A)	6.12(A)	D
44	4	Readiness	6.8(B)	6.11(D)	G
45	5	Readiness	6.10(D)	6.12(A)	C
46	1	Readiness	6.2(E)	6.11(A)	F
47	3	Supporting	6.7(A)	6.11(D)	D
48	1	Supporting	6.1(E)	6.11(A)	G
49	2	Readiness	6.3(C)	6.11(B)	C
50	3	Readiness	6.6(C)	6.11(C)	J
51	1	Readiness	6.1(B)		A
52	4	Supporting	6.8(C)	6.11(D)	F



Grade 6 Mathematics Assessment

Eligible Texas Essential Knowledge and Skills

Texas Education Agency
Student Assessment Division
Fall 2010

STAAR Grade 6 Mathematics Assessment

Reporting Category 1: Numbers, Operations, and Quantitative Reasoning

The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.

(6.1) **Number, operation, and quantitative reasoning.** The student represents and uses rational numbers in a variety of equivalent forms. The student is expected to

(A) compare and order non-negative rational numbers; ***Supporting Standard***

(B) generate equivalent forms of rational numbers including whole numbers, fractions, and decimals; ***Readiness Standard***

(C) use integers to represent real-life situations; ***Supporting Standard***

(D) write prime factorizations using exponents; ***Supporting Standard***

(E) identify factors of a positive integer, common factors, and the greatest common factor of a set of positive integers; and ***Supporting Standard***

(F) identify multiples of a positive integer and common multiples and the least common multiple of a set of positive integers. ***Supporting Standard***

(6.2) **Number, operation, and quantitative reasoning.** The student adds, subtracts, multiplies, and divides to solve problems and justify solutions. The student is expected to

(A) model addition and subtraction situations involving fractions with [objects,] pictures, words, and numbers; ***Supporting Standard***

(B) use addition and subtraction to solve problems involving fractions and decimals; ***Readiness Standard***

(C) use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates; ***Readiness Standard***

Texas Education Agency
Student Assessment Division
Fall 2010

(D) estimate and round to approximate reasonable results and to solve problems where exact answers are not required; and
Supporting Standard

(E) use order of operations to simplify whole number expressions (without exponents) in problem solving situations.
Readiness Standard

Texas Education Agency
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Fall 2010

Reporting Category 2:
Patterns, Relationships, and Algebraic Reasoning

The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.

(6.3) **Patterns, relationships, and algebraic thinking.** The student solves problems involving direct proportional relationships. The student is expected to

(A) use ratios to describe proportional situations; ***Supporting Standard***

(B) represent ratios and percents with [concrete] models, fractions, and decimals; and ***Supporting Standard***

(C) use ratios to make predictions in proportional situations. ***Readiness Standard***

(6.4) **Patterns, relationships, and algebraic thinking.** The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes. The student is expected to

(A) use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area; and ***Readiness Standard***

(B) use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc. ***Supporting Standard***

(6.5) **Patterns, relationships, and algebraic thinking.** The student uses letters to represent an unknown in an equation. The student is expected to

(A) formulate equations from problem situations described by linear relationships. ***Readiness Standard***

Reporting Category 3:
Geometry and Spatial Reasoning

The student will demonstrate an understanding of geometry and spatial reasoning.

(6.6) **Geometry and spatial reasoning.** The student uses geometric vocabulary to describe angles, polygons, and circles. The student is expected to

(A) use angle measurements to classify angles as acute, obtuse, or right; ***Supporting Standard***

(B) identify relationships involving angles in triangles and quadrilaterals; and ***Supporting Standard***

(C) describe the relationship between radius, diameter, and circumference of a circle. ***Readiness Standard***

(6.7) **Geometry and spatial reasoning.** The student uses coordinate geometry to identify location in two dimensions. The student is expected to

(A) locate and name points on a coordinate plane using ordered pairs of non-negative rational numbers. ***Supporting Standard***

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Reporting Category 4: Measurement

The student will demonstrate an understanding of the concepts and uses of measurement.

(6.8) **Measurement.** The student solves application problems involving estimation and measurement of length, area, time, temperature, volume, weight, and angles. The student is expected to

(A) estimate measurements (including circumference) and evaluate reasonableness of results; ***Supporting Standard***

(B) select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight; ***Readiness Standard***

(C) measure angles; and ***Supporting Standard***

(D) convert measures within the same measurement system (customary and metric) based on relationships between units. ***Supporting Standard***

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Fall 2010

Reporting Category 5:
Probability and Statistics

The student will demonstrate an understanding of probability and statistics.

(6.9) **Probability and statistics.** The student uses experimental and theoretical probability to make predictions. The student is expected to

(A) construct sample spaces using lists and tree diagrams; and ***Supporting Standard***

(B) find the probabilities of a simple event and its complement and describe the relationship between the two. ***Supporting Standard***

(6.10) **Probability and statistics.** The student uses statistical representations to analyze data. The student is expected to

(A) select and use an appropriate representation for presenting and displaying different graphical representations of the same data including line plot, line graph, bar graph, and stem and leaf plot; ***Supporting Standard***

(B) identify mean (using [concrete objects and] pictorial models), median, mode, and range of a set of data; ***Supporting Standard***

(C) sketch circle graphs to display data; and ***Supporting Standard***

(D) solve problems by collecting, organizing, displaying, and interpreting data. ***Readiness Standard***

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Fall 2010

Underlying Processes and Mathematical Tools

These skills will not be listed under a separate recording category. Instead, they will be incorporated into at least 75% of the test questions in reporting categories 1–5 and will be identified along with content standards.

(6.11) **Underlying processes and mathematical tools.** The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to

(A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;

(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;

(C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and

(D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.

(6.12) **Underlying processes and mathematical tools.** The student communicates about Grade 6 mathematics through informal and mathematical language, representations, and models. The student is expected to

(A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.

(6.13) **Underlying processes and mathematical tools.** The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to

(A) make conjectures from patterns or sets of examples and nonexamples; and

(B) validate his/her conclusions using mathematical properties and relationships.