

TESTS FOR HIGHER STANDARDS

MATHEMATICS



**GRADE LEVEL TEST
FOR THE MARYLAND SCHOOL ASSESSMENT**

Grade 8

Part II

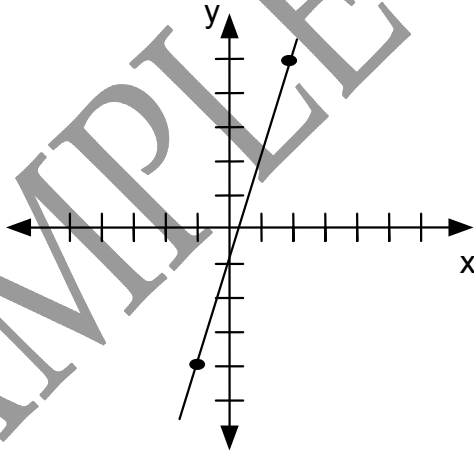
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8-1.C.1.a

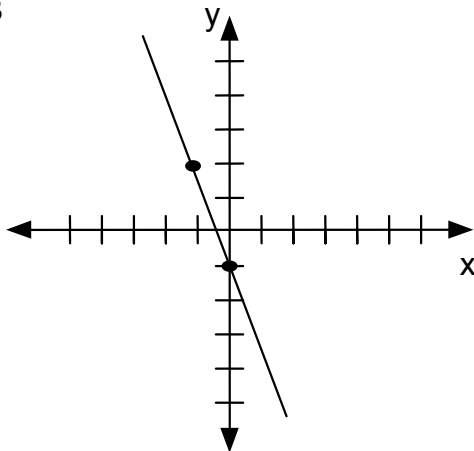
1. Which of the following graphs correctly shows the table's values?

x	-1	0	1
y	2	-1	-3

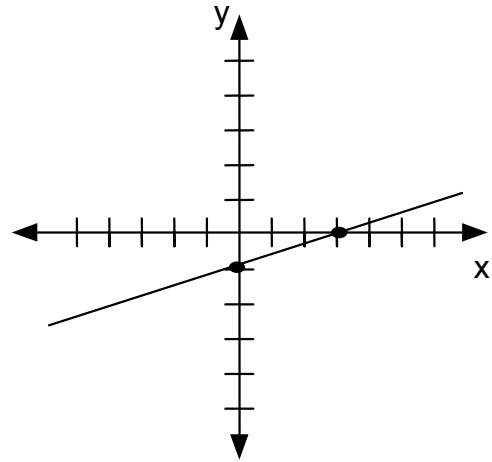
A



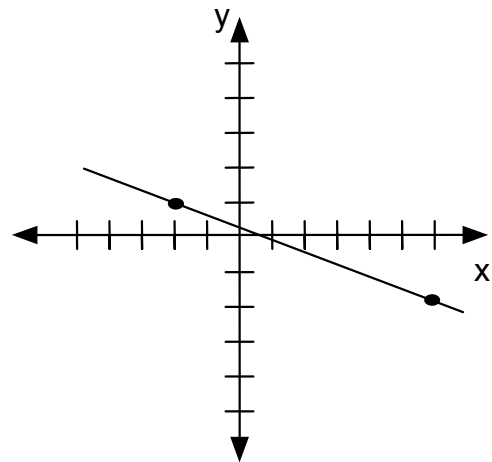
B



C



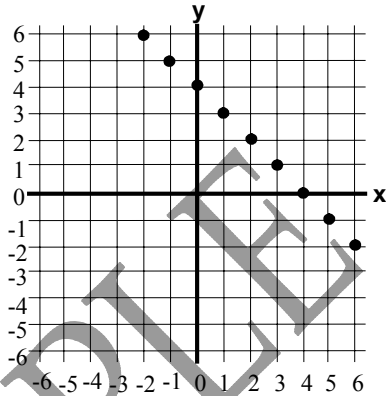
D



CONTINUE

8-1.B.2.a

2. What equation contains the points graphed below?



- A $y = x - 3$
- B $y = x - 4x^2$
- C $y = 4 - x$
- D $y = 4x$

8-6.C.3.b

3. Mr. Johnstone used 15 gallons of gasoline to drive 450 miles. How far can he drive on a full tank of 20 gallons?

- A 500 miles
- B 550 miles
- C 600 miles
- D 750 miles

8-6.C.3.c

4. The area of a rectangle is 300 sq. in. The sides are in a 3:4 ratio. What is the perimeter of the rectangle?

- A 30
- B 40
- C 60
- D 70

8-3.C.2.a

5. When doubling the lengths and widths of a rectangle, the perimeter will do what?

- A remain the same
- B double
- C be three times greater
- D be four times greater

8-1.B.2.g

6. Danny needed to convert a temperature of 25 degrees Celsius to Fahrenheit degrees for his science report. In a book, he found this formula

$F = \frac{9}{5}C + 32$, where F = degrees Fahrenheit and C = degrees Celsius. If he uses this formula correctly, what number will he record for the temperature in degrees Fahrenheit?

- A 66
- B 77
- C 152
- D 269.5

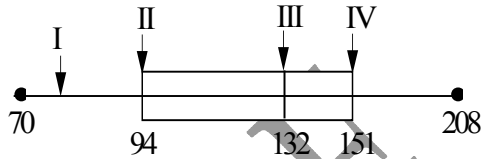
8-1.B.2.g

7. Sharon owns a car lot in Baltimore. For every car that parks in her parking lot, she charges \$5.00 per day. She uses this equation to determine her daily income:

$y = 5x$, where x is the number of cars and y is the amount of money earned. What is true about this function?

- A y is an independent variable.
- B x is an independent variable.
- C y is NOT a function of x .
- D A relationship does not exist between y and x .

Use the box-and-whisker plot below summarizing bowling scores for 19 students to answer questions 49-51.



8-4.B.1.b

8. Which score represents the median score?

- A 70
- B 94
- C 132
- D 151

8-4.B.1.b

9. What represents a whisker?

- A I
- B II
- C III
- D IV

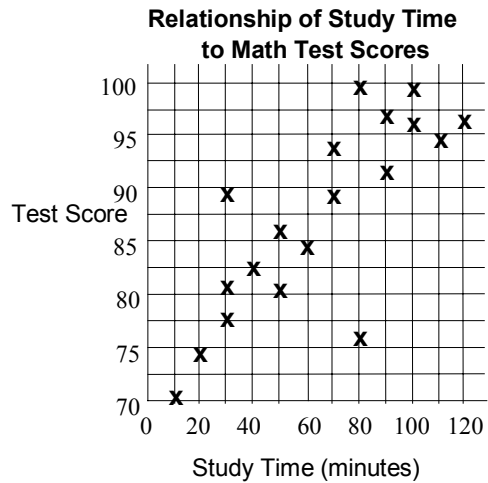
8-4.B.1.b

10. What percent of the students bowled between 70 and 151?

- A 25%
- B 50%
- C 75%
- D 100%

8-4.B.1.c

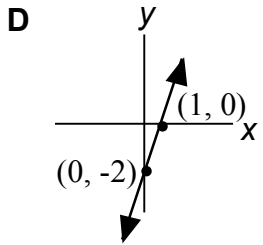
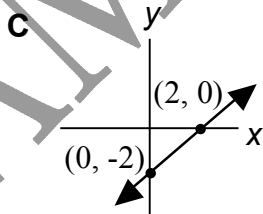
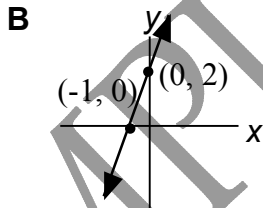
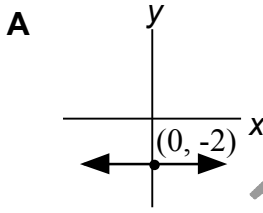
11. What is a reasonable conclusion to make from the following scatterplot?



- A Study time is the only important factor in test scores.
- B There is a negative correlation between study time and test scores.
- C Almost everyone studies the same amount of time.
- D There is a positive correlation between study time and test scores.

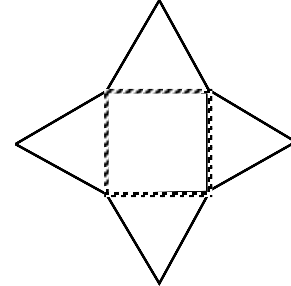
8-1.C.1.a

12. Which graph represents $y = 2x - 2$?



8-2.C.1.b

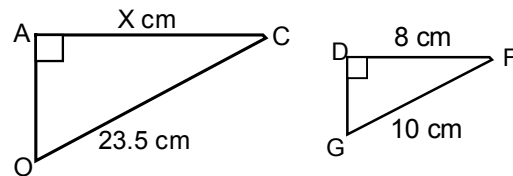
13. If you form a solid by folding the figure below along the dashed lines, what shape do you have?



- A triangular pyramid
- B triangular prism
- C square pyramid
- D cannot be done

8-2.A.1.b

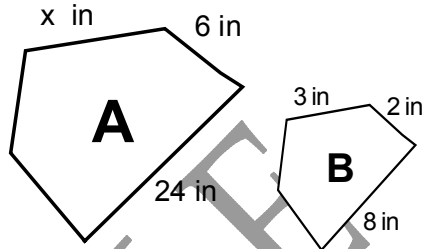
14. If triangles OAC and GDF are similar, find the measure of \overline{AC} .



- A 1.88 cm
- B 18.8 cm
- C 188 cm
- D 1880 cm

8-2.D.1.a

15. Use the proportions to find the value of x . Figure A is similar to Figure B.

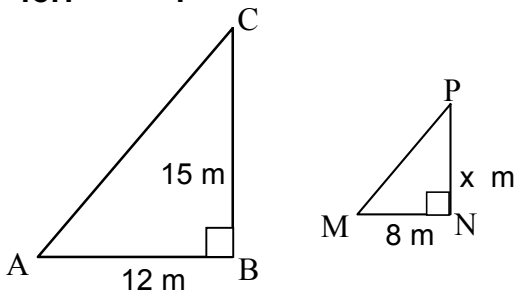


- A 1 inch
- B 9 inches
- C 11 inches
- D 18 inches

8-2.A.1.b

16. Finish the proportion between these corresponding triangles

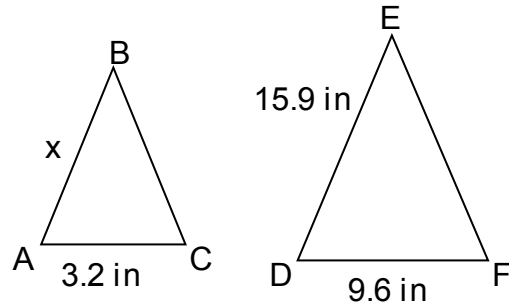
for: $\frac{x}{15} = ?$



- A $\frac{8}{12}$
- B $\frac{12}{8}$
- C $\frac{15}{8}$
- D $8 \cdot 12$

8-2.A.1.b

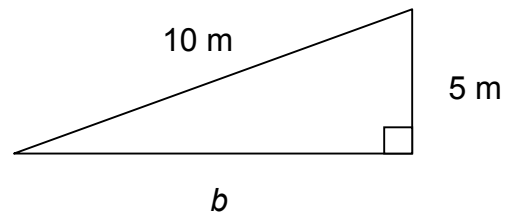
17. Find the length of x in the diagram below if $\triangle ABC \sim \triangle DEF$.



- A 1.9 inches
- B 5.1 inches
- C 5.3 inches
- D 15.9 inches

8-2.A.1.b

18. Using the Pythagorean Theorem, find the length of b to the nearest tenth.



- A 2.2 m
- B 3.2 m
- C 8.7 m
- D 15.0 m

8-6.A.1.a

19. Which of the following numbers is the largest ?

- A 7.5×10^4
- B 5.6×10^5
- C 6.1×10^5
- D 6.5×10^5

8-6.A.1.a

20. Which of the following is the correct way to write the number 123,000,000 using scientific notation?

- A 1.23×10^{-8}
- B 123×10^{-8}
- C 123×10^8
- D 1.23×10^8

8-6.A.1.a

21. How should 0.0000026 be written in scientific notation?

- A 0.26×10^5
- B 2.6×10^6
- C 0.26×10^{-5}
- D 2.6×10^{-6}

8-6.A.1.a

22. Which of the following is the correct way to write the number 5,520,000 using scientific notation?

- A 55.2×10^8
- B 552×10^6
- C 5.52×10^6
- D 5.52×10^8

8-6.A.1.a

23. Write this number in standard form.

$$7.789 \times 10^3$$

- A 7.789
- B 77.89
- C 778.9
- D 7,789

8-6.C.1.b

24. What is $\sqrt{144}$

- A 10
- B 12
- C 14
- D 16

8-6.C.1.b

25. What is $\sqrt{121}$?

- A 9
- B 10
- C 11
- D 12

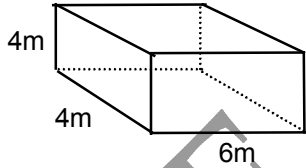
8-6.C.1.b

26. What is $\sqrt{64}$?

- A 6
- B 8
- C 9
- D 10

8-3.C.1.b

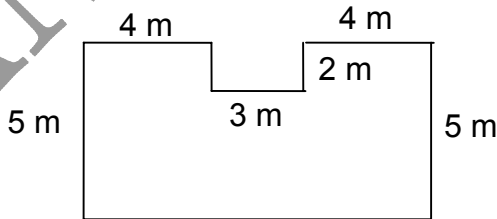
27. Find the surface area.



- A 64 m^2
- B 96 m^2
- C 128 m^2
- D 136 m^2

8-3.C.1.b

28. Find the area of the figure below.



- A 32 m^2
- B 49 m^2
- C 52 m^2
- D 55 m^2

The following table has measurements of circular objects, rounded to the nearest inch.

Diameter	Circumference
7	21
6	18
5	15

8-3.C.2.a

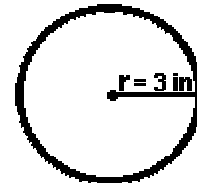
29. What rule could you use to estimate the circumference of a round object, if you knew the diameter?

- A Circumference = diameter + 3.
- B Circumference = diameter - 3.
- C Circumference = diameter x 3.
- D Circumference = diameter ÷ 3.

8-3.C.1.a

30. The radius of a circle is 3 inches. What is the area?

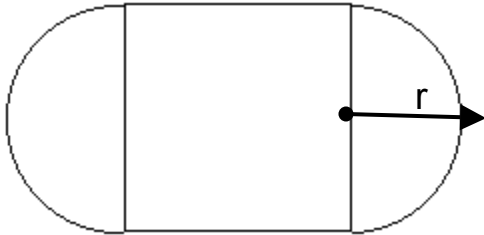
Area = πr^2



- A 18.84 in^2
- B 20.46 in^2
- C 28.26 in^2
- D 30.69 in^2

8-3.C.1.b, 8-3.C.1.a

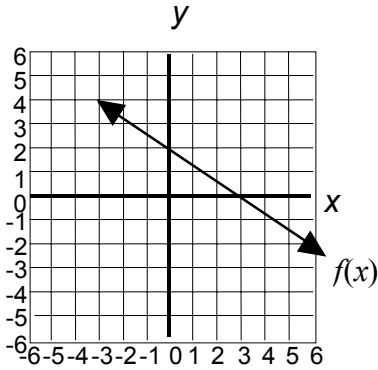
31. A circle is split and placed at either end of a square as shown below. Which formula could be used to find the area of the whole figure?



- A $\frac{1}{2}\pi r^2 + r^2$
- B r^4
- C $3\pi r^2$
- D $\pi r^2 + 4r^2$

8-1.C.2.a

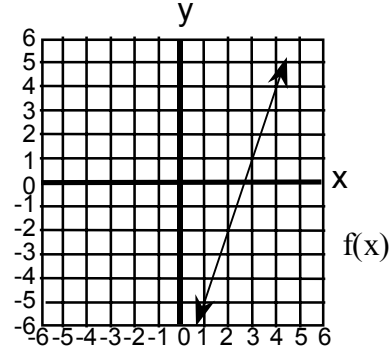
32. In the graph below, what is the slope of the line, $f(x)$?



- | | | | |
|---|----------------|---|----------------|
| A | $-\frac{3}{2}$ | B | $-\frac{2}{3}$ |
| C | $\frac{2}{3}$ | D | $\frac{3}{2}$ |

8-1.C.2.a

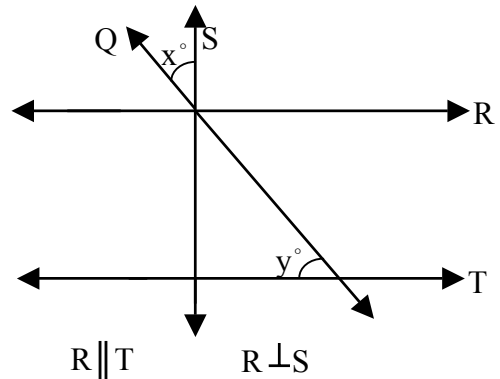
33. In the graph below, what is the slope of the line, $f(x)$?



- A 2
- B -2
- C 3
- D -3

8-2.A.1.a

34. Look at the figure below.

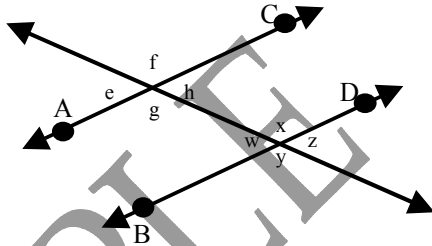


If $x = y - 15$, the measure of x is

- A 15°
- B 30°
- C 45°
- D 60°

8-2.A.1.a

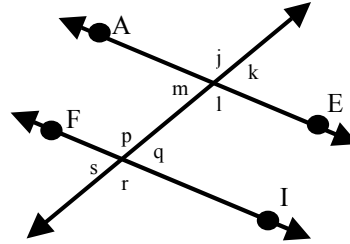
35. Use the figure below. Which statement is true?



- A $\angle z$ and $\angle x$ are complementary
- B $\angle z$ and $\angle g$ are complementary
- C $\angle z$ and $\angle y$ are supplementary
- D $\angle z$ is equal to $\angle g$

8-2.A.1.a

36. Use the figure below. Which angles are supplementary?



- A $\angle m$ and $\angle k$
- B $\angle q$ and $\angle s$
- C $\angle k$ and $\angle q$
- D $\angle p$ and $\angle q$

8-3.C.2.a

37. Joanna has a cube that has edges measuring 2 centimeters. If the edges are doubled, what will be the new volume?

- A twice as great
- B three times as great
- C six times as great
- D eight times as great