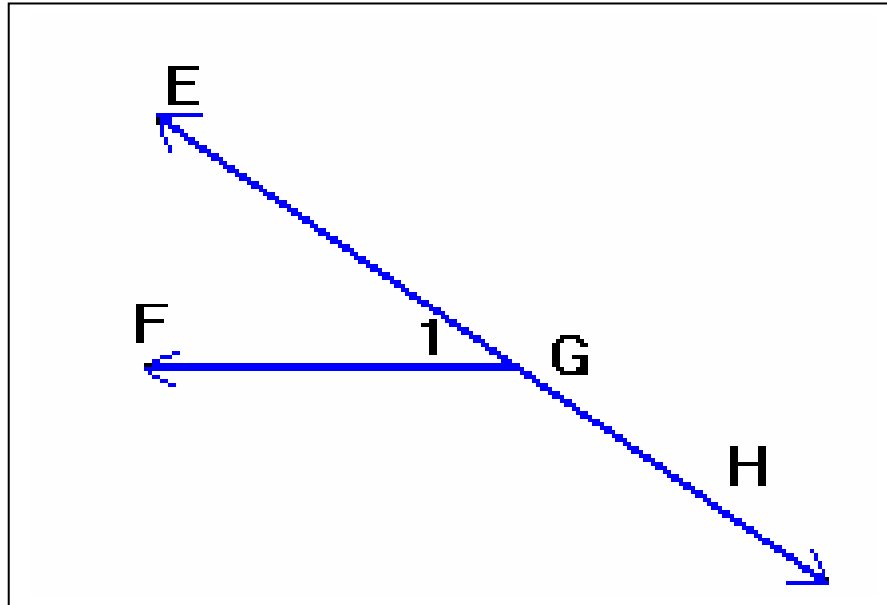


Web Demo and Topics

Math Grade 8 assessment

1) Using the diagram below, which two rays intersect to form $\angle 1$?



- | | | | |
|------------------------------|------------------------------|------------------------------|------------------------------|
| 1) \vec{GE} and \vec{GH} | 2) \vec{GF} and \vec{GE} | 3) \vec{GH} and \vec{HF} | 4) \vec{EH} and \vec{EF} |
|------------------------------|------------------------------|------------------------------|------------------------------|

2) What value of n will make the following statement true?

$$125 = 5^n$$

- 1) 5 2) 2 3) 3 4) 4

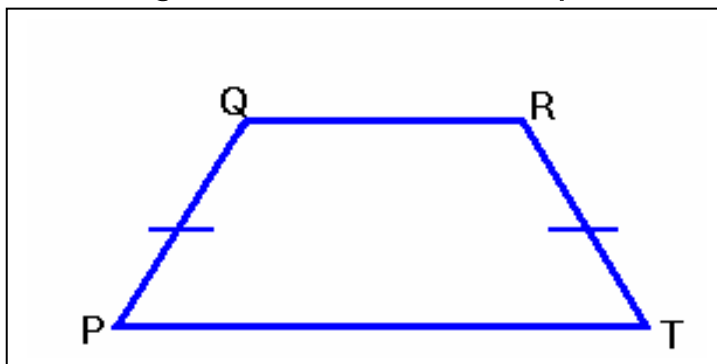
3) What is the prime factorization of 65?

- 1) 4×12 2) $2^3 \times 12$ 3) $3^2 \times 5^2$ 4) 5×13

4) What is the prime factorization of 65?

- 1) 4×12 2) $2^3 \times 12$ 3) $3^2 \times 5^2$ 4) 5×13

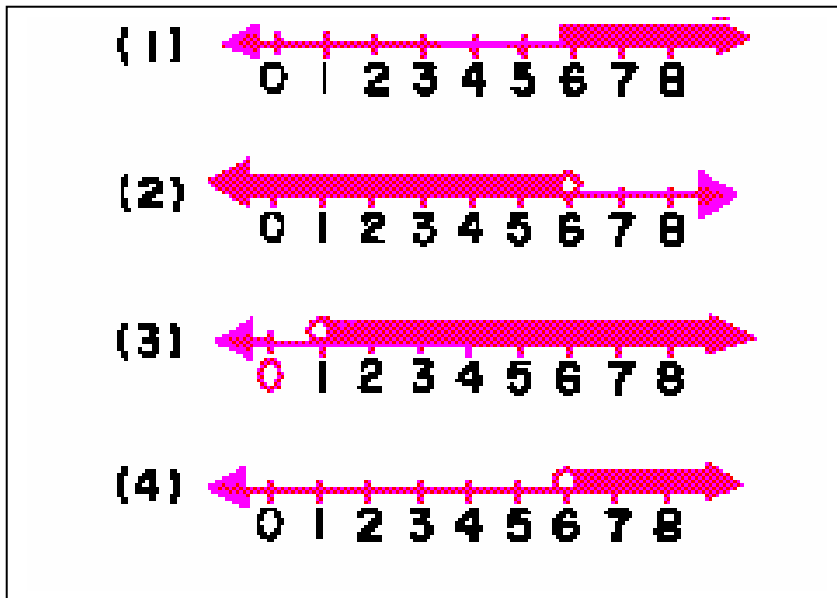
5) A drawing of an isosceles trapezoid is shown below.



The trapezoid has a perimeter of 60 inches with QR measuring 17 and PQ measuring 10 inches. How long is PT?

- 1) 23 inches 2) 20 inches 3) 46 inches 4) 37 inches

6) Which graph represents the solution set of the inequality $2x - 5 > 7$?



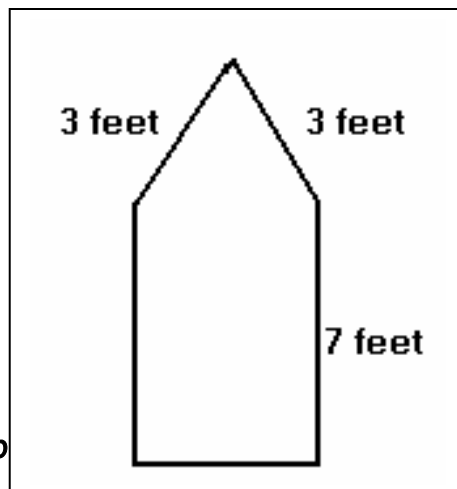
- 1) 1 2) 2 3) 3 4) 4

7) Which number is not a member of the solution set of

$$5x \leq 23?$$

- 1) 0 2) -4.7 3) 4.6 4) 4.7
 1) 1 2) 2 3) 3 4) 4

8) A vegetable garden is on the shape of a rectangle with a triangle adjacent to one side of the rectangle, as shown in the accompanying diagram.



- What is the perimeter of the garden?
 1) 27 feet 2) 30 feet 3) 32 feet 4) 24 feet

9) Kristen is taking a cab ride. The ride costs \$1.50 for the first one-tenth of a mile, and \$0.70 for each additional one-tenth of a mile. If the trip costs \$19.00, how many miles was the cab ride?

- 1) 2.2 miles 2) 3.6 miles 3) 2.6 miles 4) 26 mile

10) To solve the following expression, which operation must you perform first?

- 1) + 2) - 3) x 4) ^

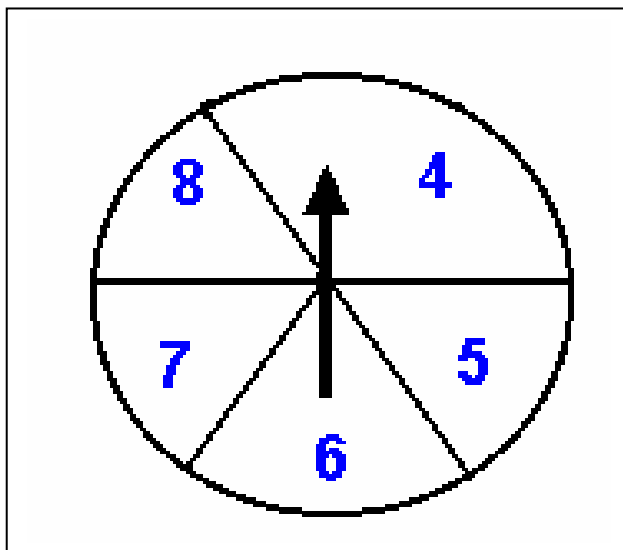
11) Rob and Alex ordered a large pizza. Rob ate 60% of the pizza and Alex ate $\frac{2}{5}$ of the pizza. What percentage of the pizza did they eat in all?

- 1) 50% 2) 70% 3) 90% 4) 100%

12) The school auditorium was $\frac{5}{8}$ full. What percent of the auditorium was full?

- 1) 87.5% 2) 76.8% 3) 58% 4) $58 \frac{1}{2}$

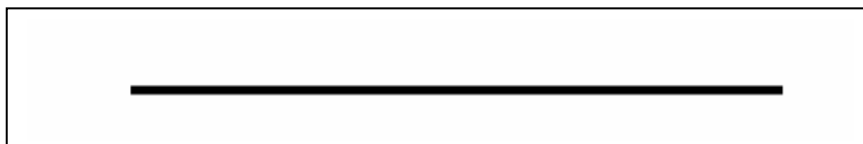
13) A game involves spinning the spinner below. The areas of sections 5, 6, 7, and 8 are equal. The area of section 4 is twice the area of the other sections.



What is the probability that the spinner lands on a 4, 5 or 6?

14) Use your ruler to help you solve this problem. A cylinder has a volume of 310 cubic centimeters.

This line segment represents the diameter of the cylinder.



Part A

If the value of pi used to calculate the volume of the cylinder is 3.14, compute the radius and the height, to the nearest tenth, of the cylinder in centimeters. Show your work.

Part B

Explain in words how you would determine the radius and the height of the cylinder.

- | | |
|--------------------------------------|--------------------------------------|
| 1) radius = 2 cm
height = 23.9 cm | 3) radius = 2 cm
height = 14.1 cm |
| 2) radius = 4 cm
height = 6.2 cm | 4) radius = 8 cm
height = 15.0 cm |

15) Part A

On graph paper, graph the point R(4,-2).

Part B

- 1) Then graph the image of point R when reflected over the line $x = 3$.
- 2) What are the coordinates of the image?
- 1) (-4,-2) 2) (4,2) 3) (2,-2) 4) (-2,-2)

16) Graph the following points.

Part B

- 1) Connect the points in order.
- 2) Draw the image of the figure for a dilation with the origin as the center and a scale factor of 3.
- $S = (4,0); \quad T = (-1,-5) \quad U = (-1,1)$

17) Each day, approximately 12 million packages of snickers are eaten in the United States. On the average, how many packages are eaten in the U.S. per hour? Show your work.

- 1) 1 million 2) 0.2 million 3) 0.3 million 4) 0.5 million

18) Susan sold 56 paperback books and 30 bookmarks on Saturday. She made a total of \$176.30/ She sold the paperback books for \$2.50 each.

Equation_____

Part A

Write an equation that can be used to find the cost, c, of each bookmark.

Part B

Solve the equation that you wrote to find the cost of one bookmark. Show your work.

- 1) $56(30) + 2.50c = 176.30; c = \1.22
- 2) $56(2.50) + 30c = 176.30; c = \1.21

3) $126.30 + 30c = 176.30; c = \2.14

4) $56v - 30 = 176.30; c = \$1.60$

19)

Three quadrilaterals have the following coordinates:

Quadrilateral 1: $(-5,4), (-5,2), (1,2), (1,4)$

Quadrilateral 2: $(3,-1), (3,-3), (6,-5), (6,1)$

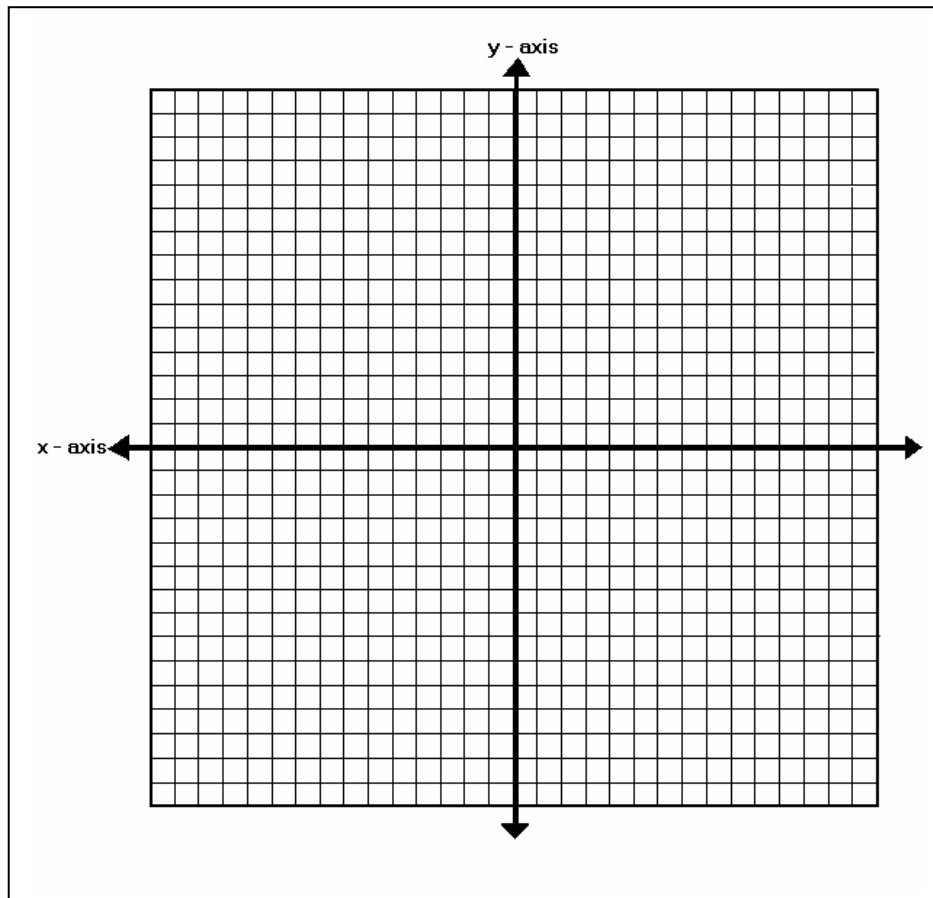
Quadrilateral 3: $(-3,-2), (-3,-5), (-6,-5), (-6,-2)$

Part A

On the grid below, plot the coordinates for each quadrilateral.

Connect the points in order. Connect the last point to the first point to complete each quadrilateral. Label the quadrilateral

1, 2, and 3.



Part B

Name each numbered figure that you drew and explain in words why it is this type of quadrilateral.

20) Complete the Venn diagram to illustrate the given information.

Sports enrollment:

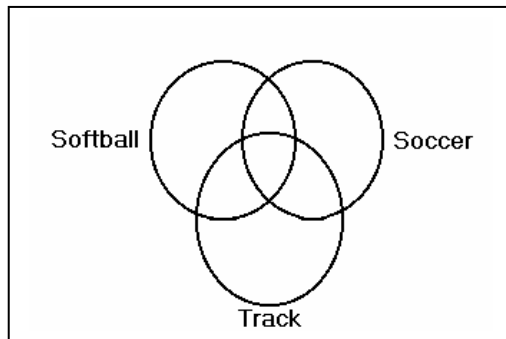
5 students play only softball

7 students play only soccer

17 students run track, but do not play softball or soccer

4 students play both softball and soccer, but do not run track

3 students play softball, soccer, and run track
36 students participate in at least one of the three sports



Explain in words how to find the total number of students that play softball

21) Part A

On graph paper, graph the point $Q(-1,4)$.

Part B

1) Then graph the image of point Q when reflected over the x -axis.

2) What are the coordinates of the image?

1) $(1,-4)$ 2) $(-4,1)$ 3) $(-1,-4)$ 4) $(-1,4)$

22) Part A

Graph the following points.

Part B

1) Connect the points in order.

2) Draw the image of the figure for a dilation with the origin as the center and a scale factor of 2.

$C = (0,-2)$; $D = (-2,0)$

23) Part A

Graph the following points.

1) Connect the points in order.

2) Draw the image of the figure for a dilation with the origin as the center and a scale factor of 2.

$H = (1,7)$; $I = (3,3)$; $J = (1,3)$

24) In a dilation with center C and a scale factor of K ,

A' is the image of A and B' is the image of B . Find

K for $AB = 8$, $A'B' = 14$.

Show your work or explain in words.

1) 6 2) $1\frac{3}{4}$ 3) $\frac{4}{7}$ 4) 22

Math Grade 8 Assessment Topics

Angles

Exponents - Divide

Exponents - Multiply

Exponents

Factors - Prime Factorization

Fractions - Compare

Geometry - Perimeter

Inequalities

Measurement

Numbers to Scientific Notation

Operational Algorithms

Order of Operations

Parabolas

Percent - Word Problems

Percent - from Fraction

Probability - Independent Events

Probability - Permutations Counting

Ratio & Proportions

Reasoning - Patterns

Scientific Notation to Numbers

Significant Notation to Numbers

Similarity

Statistics - Mean

Transformations - Dilations

Transformations - Line Reflections

Transformations - Rotations

Transformations - Translations

Area from Coordinate Geometry

Graph - Coordinate Plane Mathematical Reasoning - Properties

Probability - Permutations Counting

Probability - Sample Space

Probability - Tree Diagram

Pythagorean Theorem

Ratio & Proportions

Rational Numbers - Compare

Transformations - Dilations

Transformations - Translations

Trigonometry - Cosine

Trigonometry - Sine

Trigonometry - Tangent

Trigonometry

Graph - Coordinate Plane

Inequalities - Graphing

Linear Equations

Operational Algorithms

Parabolas

Statistics - Graphs

Transformations - Graphing Dilations

Transformations - Line Reflections Graphing

Venn Diagrams

Volume - Cylinder

Word Problems - Discount & Tax