EOC Review- Unit 6 2017:

Schoolnet Problems to Practice:

Standard	What is it?	Practice Problems
GPE.4	Use coordinates to prove simple geometric theorems algebraically. (Example: what shape? Is this point on the circle?)	Below
GPE.5	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Below
GPE.6	Find the point on a directed line segment between two given points that partitions the segment in a given ratio. (Midpoint)	Below

Math 8 Geometry Standards:

Standard	What is it?	Practice Problems
8.G. 3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Below
8.G.5	angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles	Below
8.G.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Below
8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Below
8.G.9	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Below

EOC Practice Problems

GPE.4 Practice:

3. Consider the polygon in the *xy*-coordinate plane with vertices at points (1, 3), (3, 4), (5, 0) and (3, −1).

What is the most specific name for this polygon?

A. kite

B. parallelogram

C. rectangle

D. square

7. A circle is centered at point (3, ⁻3). The diameter of the circle is 20 units. Which point lies on the circle?

A. (23, ⁻3)

B. (⁻3, 7)

C. (3, 7)

D. (3, ⁻17)

GPE.5 Practice:

3. Which is an equation of the line that passes through the point (0, ⁻5) and is perpendicular to the graph of $y = 2x + 1$?

A. $x - 2y = 10$

B. $x + 2y = 10$

C. $x + 2y = ⁻10$

D. $x - 2y = ⁻10$

16. Two bridges are being built over a river. When graphed on a coordinate grid, Bridge One runs through (4, 4) and (7, 11). Bridge Two runs through (9, 17) and is parallel to Bridge One. Which equation represents Bridge Two?

A
$$y - 4 = \frac{3}{7}(x - 4)$$

B.
$$y - 17 = \frac{7}{3}(x - 9)$$

C.
$$y - 9 = \frac{7}{3}(x - 17)$$

D.
$$y - 17 = \frac{^-3}{7}(x - 9)$$

GPE.6 Practice:

2. The endpoints of $\overline{PQ}$ are (-2, 8) and (6, 12). What are the coordinates of the midpoint of $\overline{PQ}$?

A (5, 7)

B. (4, 10)

C. (4, 4)

D. (2, 10)

3. The midpoint of line segment *MN* is located at (-5, -8). The endpoint *M* is located at (3, 4). What are the coordinates of endpoint *N*?

A (-13, -20)

B. (-6.5, 3.5)

C. (-1, -2)

D. (11, 16)

# EOG Practice Problems

8.G.3 Practice:

5. Trapezoid *LMNP* has vertices at *L*(⁻9, ⁻3), *M*(⁻5, ⁻3), *N*(⁻4, ⁻7), and *P*(⁻11, ⁻7). The trapezoid will be rotated 180° clockwise about the origin. What will be the coordinates of *L'*?

   A (9, 3)

   B. (3, 9)

   C. (⁻9, 3)

6. The coordinates of a triangle are (2, ⁻3), (2, ⁻5), and (5, ⁻5). The triangle will be dilated by a scale factor of 10. What will be the coordinates of the image triangle?

   A (20, ⁻30), (20, 50), and (⁻50, 50)

   B. (20, ⁻30), (20, ⁻50), and (50, ⁻50)

   C. (⁻20, 30), (20, ⁻50), and (⁻50, 50)

   D. (⁻20, 30), (⁻20, 50), and (50, ⁻50)

7. The vertices of a triangle are located at (⁻4, 6), (⁻6, 6), and (⁻5, 4). The triangle will be reflected over the *y*-axis. What will be the coordinates of the image triangle?

   A (⁻4, ⁻6), (⁻6, ⁻6), (⁻5, ⁻4)

   B. (4, ⁻6), (6, ⁻6), (5, ⁻4)

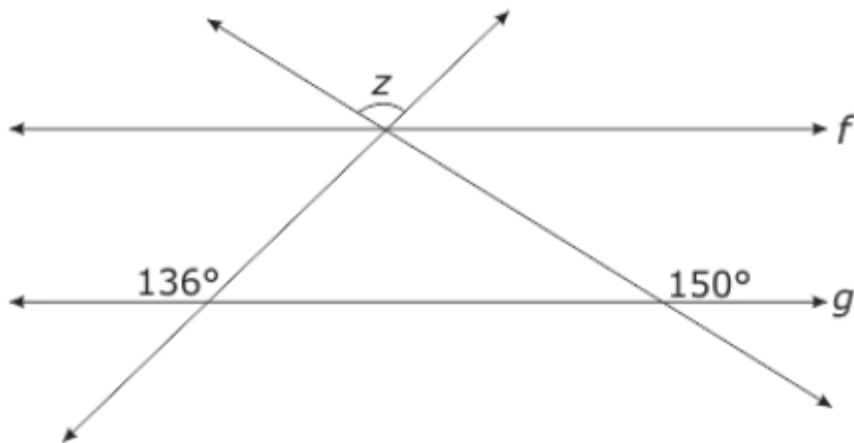   C. (4, 6), (6, 6), (5, 4)

   D. (6, ⁻4), (6, ⁻6), (4, ⁻5)
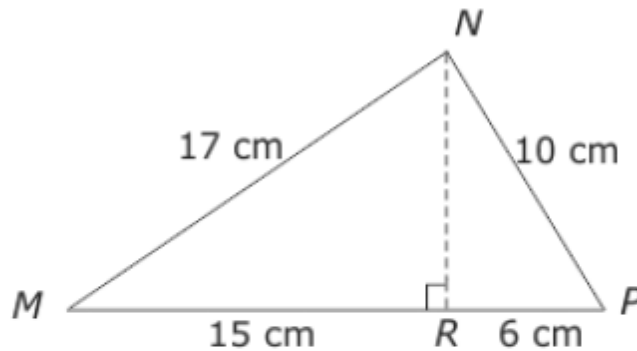
1. Triangle *PQR* is shown below.
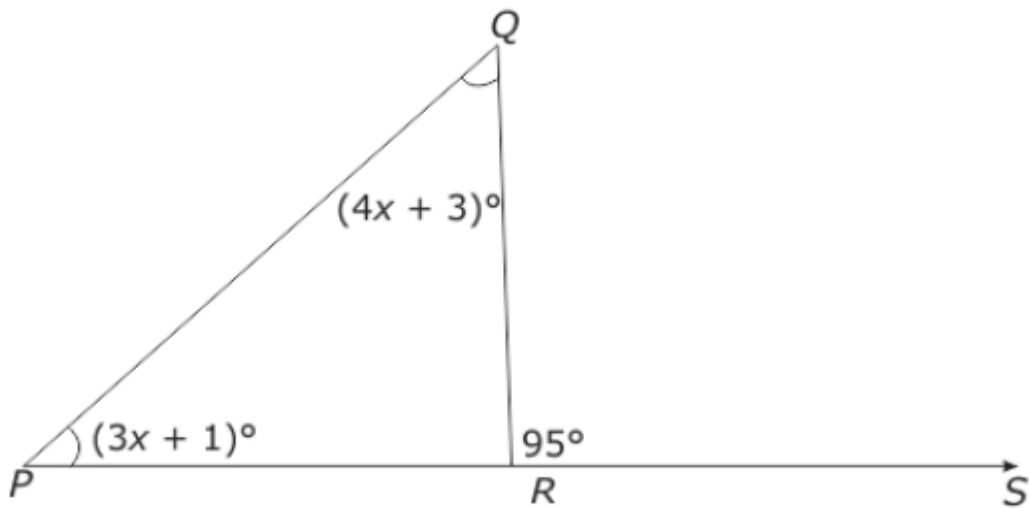
What is the value of *x*?

4. In the figure below, lines *f* and *g* are parallel.

What is the measure of ∠*z*?

4. A right triangle has an area of 60 cm^2. The base of the triangle is 15 cm long. What is the length of the hypotenuse of the right triangle?

  A   16 cm

  B.   17 cm

  C.   18 cm

  D.   19 cm

16. In the figure below is △MNP.

What is the area of △MNP?

  A   84 cm^2

  B.   105 cm^2

  C.   158 cm^2

  D.   168 cm^2

8.G.8 Practice:

2. Triangle JKL has vertices J(0, 7), K(0, 1), and L(4, 7). What is the **approximate** perimeter of the triangle?

  A   7.2 units

  B.   12.4 units

  C.   17.2 units

  D.   18.4 units

16. What is the distance between the points (3, 5) and (⁻1, 2)?

   A   3 units

   B.   4 units

   C.   5 units

   D.   25 units

8.G.9 Practice:

2. Wang has two cylindrical cans. Each can is 10 inches tall. The diameter of the first can is half that of the second can. If water were poured into each can, how much more water could the second can hold than the first?

   A   four times as much

   B.   two times as much

   C.   half as much

   D.   one-fourth as much

7. Laura made two spherical pillows. Each pillow had a radius of 6 inches. **Approximately** what is the total volume of space Laura had to fill with stuffing?

   A   150 in.^{3}

   B.   905 in.^{3}

   C.   1,020 in.^{3}

   D.   1,810 in.^{3}

14. An ice cream cone has a radius of 2 inches and a height of 6 inches. How much ice cream can fit inside the cone?

   A   4 in.^{3}

   B.   6 in.^{3}

   C.   25 in.^{3}

   D.   101 in.^{3}