

*Directions: Show all work. You may use a calculator.*

1. Solve for  $x$  in the equation below.

$$-6x + 2 = 4x - 8$$

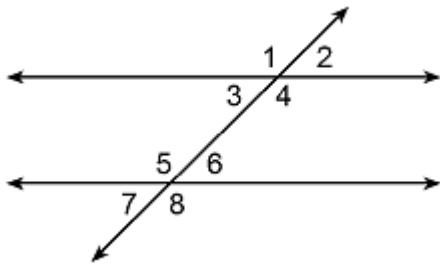
2. Two angles are **supplementary**. Angle 1 is represented by  $(4x - 15)$  and angle 2 is represented by  $(x + 35)$ . Determine the value of  $x$ .

3. Point Q has coordinates  $(2, -7)$ . Determine the coordinates of its image after a **dilation** using a scale factor of 3.

- A  $(5, -10)$                       C  $(6, -21)$   
 B  $(-7, 2)$                         D  $(4, -14)$

4. Which of the following values is an **irrational** number?

- A  $\sqrt{36}$                               C  $\sqrt{49}$   
 B  $\sqrt{1}$                                 D  $\sqrt{13}$



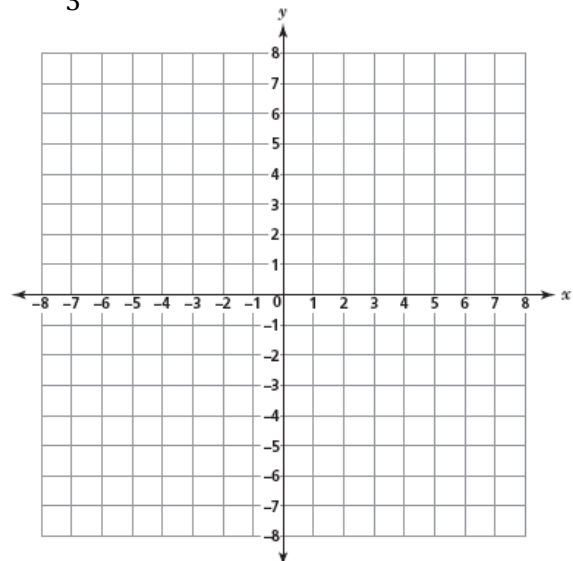
5. The measure of  $\angle 6 = 30^\circ$ . Find the measure of the following angles and give the angle relationship.

- a.  $\angle 2 =$   
 b.  $\angle 7 =$   
 c.  $\angle 8 =$   
 d.  $\angle 3 =$   
 e.  $\angle 4 =$

6. Graphically solve the system of linear equations given below.

$$y = x - 2$$

$$y = -\frac{2}{3}x + 3$$



7. When Alonso completes a transformation, the transformed figure is **similar** to the original figure, but is **not congruent** to it. Which transformation did Alonso complete?

- A Rotation                      C Reflection  
 B Dilation                      D Translation

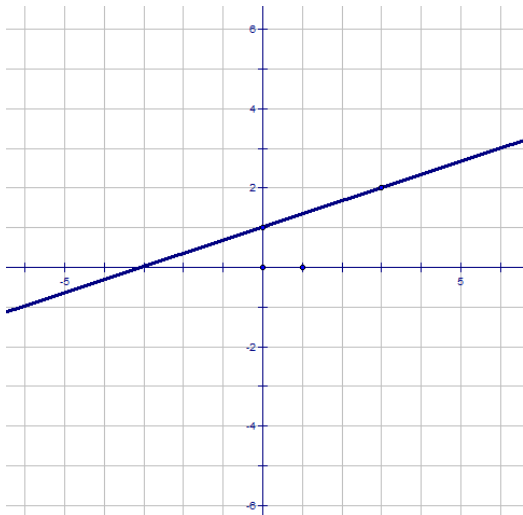
8. The table below shows the seating capacity at four different football stadiums.

Georgia Dome	$7.1 \times 10^4$
Michigan Stadium	$1.099 \times 10^5$
Lambeau Field	$8.075 \times 10^4$
Ohio Stadium	$1.02 \times 10^5$

Based on this data, which football stadium has the greatest seating capacity?

- A Georgia Dome  
 B Michigan Stadium  
 C Lambeau Field  
 D Ohio Stadium

9.

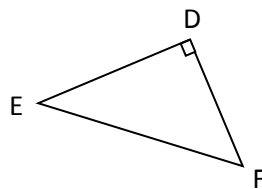


Determine the slope ( $m$ ) of the line. \_\_\_\_\_

Determine the y-intercept ( $b$ ). \_\_\_\_\_

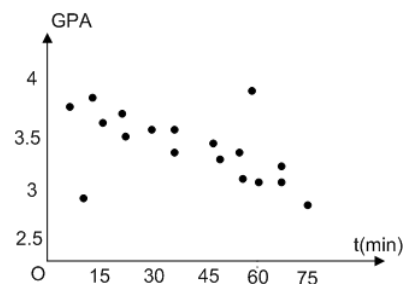
Write the linear equation. \_\_\_\_\_

10. Right triangle DEF is shown below. The length of  $\overline{DE}$  is 5 cm, and the length of  $\overline{EF}$  is 13 cm. What is the length of the missing side? *Show your work.*



Answer \_\_\_\_\_ cm

11. A study was conducted to compare the GPA of several college students with their commute time. What type of correlation is shown by the scatter plot?



- A Positive                      C Non-Linear  
 B Negative                      D Cannot be determined