

Geometry Prerequisite Skills:

1. Factor completely:

$$x^2 + 5x + 6$$

$$x^2 - 3x - 21$$

$$x^2 + 4x - 32$$

$$x^2 - 12x + 36$$

$$3x^2 - 27$$

$$4x^2 + 8x$$

2. Solve:

$$x^2 + 6x + 5 = 0$$

$$x^2 - 3x = 18$$

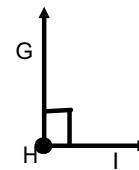
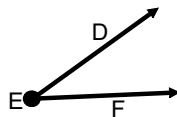
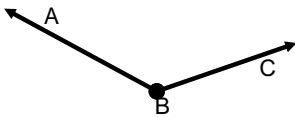
$$x^2 + 2x = 99$$

$$x^2 - 16x + 64 = 0$$

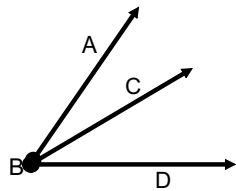
$$4x^2 = 8x$$

$$3x^2 - 27 = 0$$

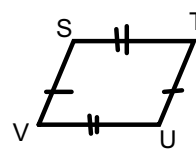
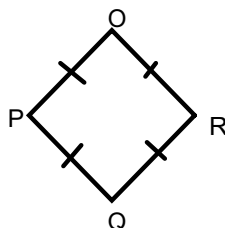
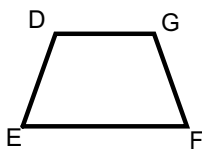
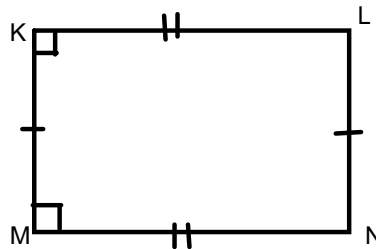
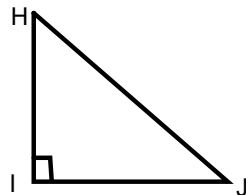
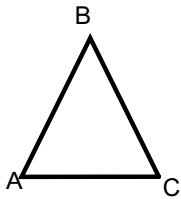
3. Classify and name the following angles:



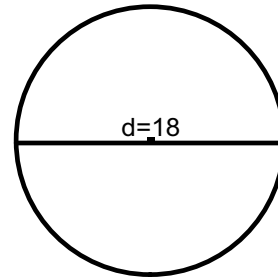
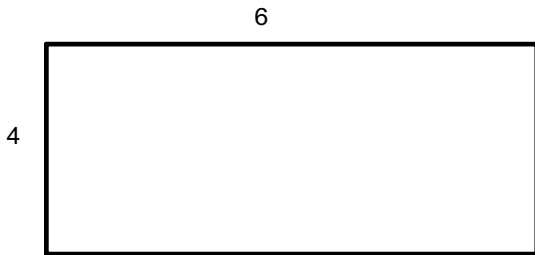
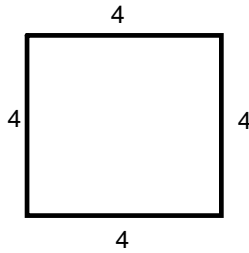
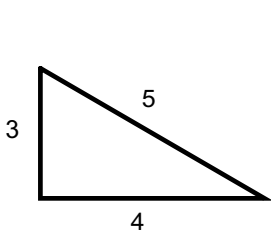
4. Name 3 of the following angles:



5. Classify and name each polygon:



6. Find the perimeter and area of the following:

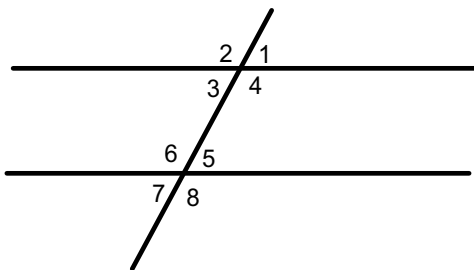


7. Find the dimensions of a rectangle whose width is 3 more than 5 times its height and whose perimeter is 42.

8. The measure of an angle is 42° , find the angle's complement and supplement.

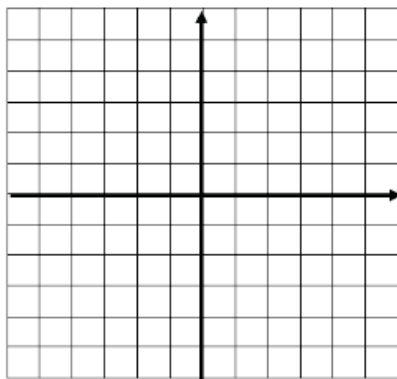
9. The measures of the legs of a right triangle are 8 cm and 9 cm. Find the length of the hypotenuse, to the nearest tenth of a centimeter.

10. Find the measure of all 8 angles if the measure of angle 3 is 28° .

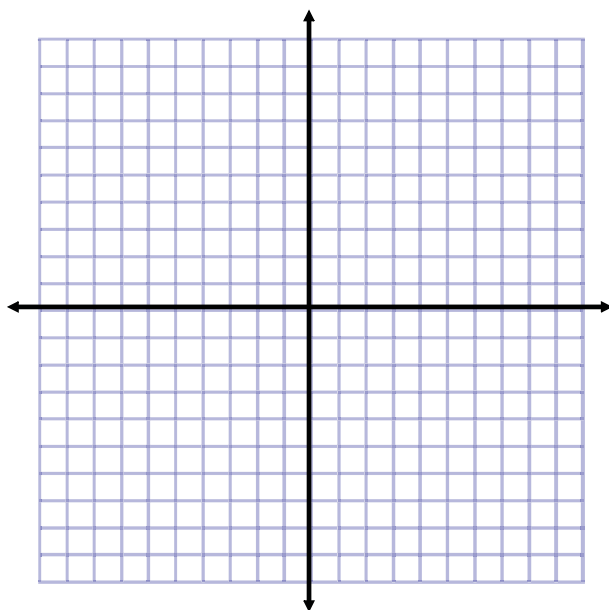


11. Plot each of the following points on the grid below. Use the letter to label the point on the graph. Also identify the quadrants on the grid below.

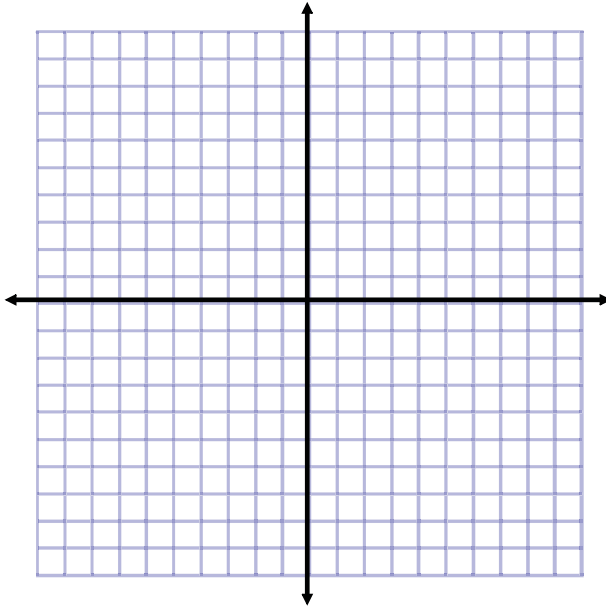
A(3,0) B(5,5) C(-1,2) D(-3,-2) E(0,-3)



12. Solve the following system graphically: $y = 3x - 4$
 $2x + 3y = 6$



13. Graph the following: $y = x^2 + 2x - 3$



14. Find the slope between each pair of points:

$(-3, 5)$ $(2, 7)$

$(4, -3)$ $(95, -3)$

$(6, -4)$ $(6, 3.33)$

15. Solve the following system using substitution:

$$5x - y = 5$$

$$5x - 3y = 15$$

16. Reduce to simplest radical form: $\sqrt{72}$

17. Reduce to simplest radical form: $\sqrt{180}$

Geometry Prerequisite Skills:

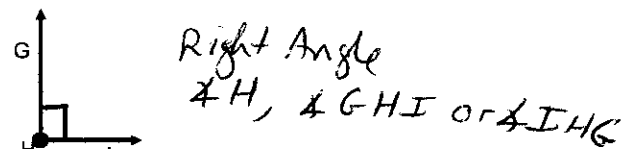
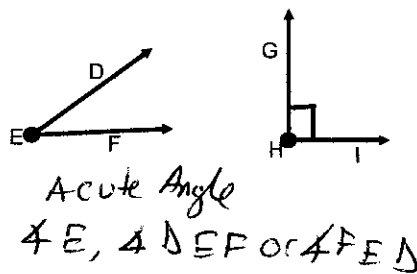
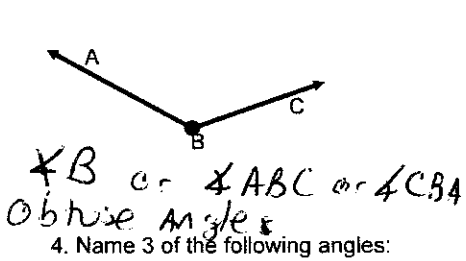
1. Factor completely:

$$\begin{aligned} x^2 + 5x + 6 & (x+3)(x+2) \\ x^2 - 3x - 21 & (x-7)(x+4) \\ x^2 + 4x - 32 & (x+8)(x-4) \\ x^2 - 12x + 36 & (x-6)(x-6) \\ 3x^2 - 27 & 3(x+3)(x-3) \\ 4x^2 + 8x & 4x(x+2) \end{aligned}$$

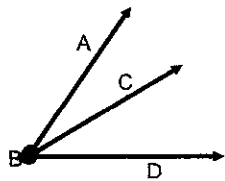
2. Solve:

$$\begin{aligned} x^2 + 6x + 5 = 0 & x = \{-3, -2\} \\ x^2 - 3x = 18 & x = \{-3, 6\} \\ x^2 + 2x = 99 & x = \{-11, 9\} \\ x^2 - 16x + 64 = 0 & x = \{8\} \\ 4x^2 = 8x & x = \{0, 2\} \\ 3x^2 - 27 = 0 & x = \{-3, 3\} \end{aligned}$$

3. Classify and name the following angles:

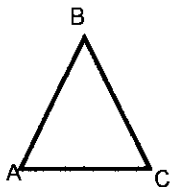


4. Name 3 of the following angles:

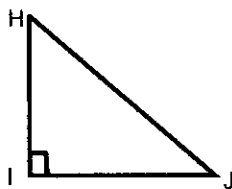


- $\angle ABC$
- $\angle CBD$
- $\angle ABD$
- $\angle DBC$
- $\angle DBA$
- $\angle CBA$

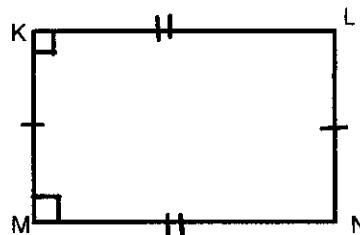
5. Classify and name each polygon:



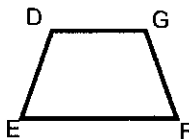
Triangle ABC



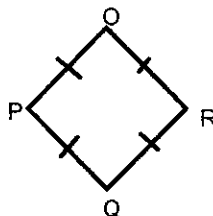
$\triangle HIJ$



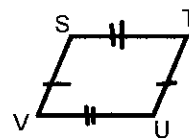
rectangle KLMN



Trapezoid
EDGF

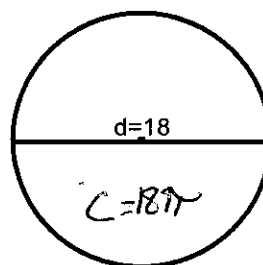
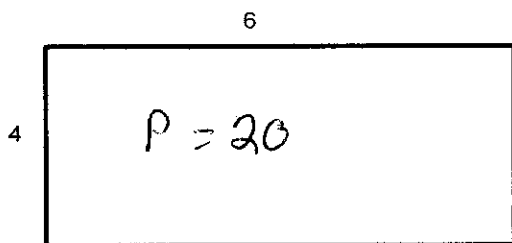
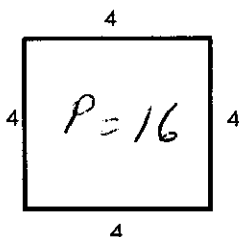
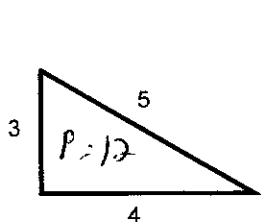


Rhombus
OPQR

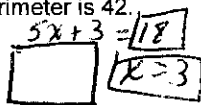


Parallelogram
STUV

6. Find the perimeter and area of the following:



7. Find the dimensions of a rectangle whose width is 3 more than 5 times its height and whose perimeter is 42.



$$x + x + 5x + 3 + 5x + 3 = 42$$

$$12x + 6 = 42$$

$$12x + 6 = 42$$

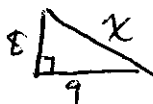
$$\frac{12x}{12} = \frac{36}{12}$$

$$x = 3$$

8. The measure of an angle is 42° , find the angle's complement and supplement.

$A = 42^\circ$
 complement = $90 - 42 = 48^\circ$ Supplement = $180 - 42 = 138^\circ$

9. The measures of the legs of a right triangle are 8 cm and 9 cm. Find the length of the hypotenuse, to the nearest tenth of a centimeter.



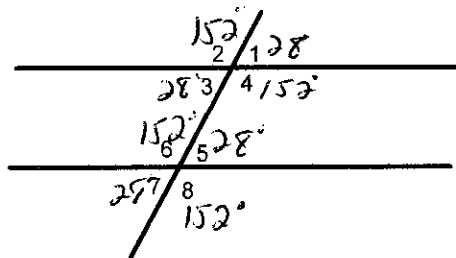
$$8^2 + 9^2 = x^2$$

$$64 + 81 = x^2$$

$$145 = x^2$$

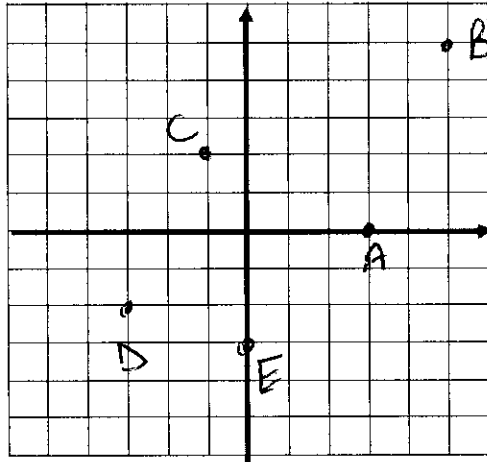
$$x = \sqrt{145} = 12.0$$

10. Find the measure of all 8 angles if the measure of angle 3 is 28° .

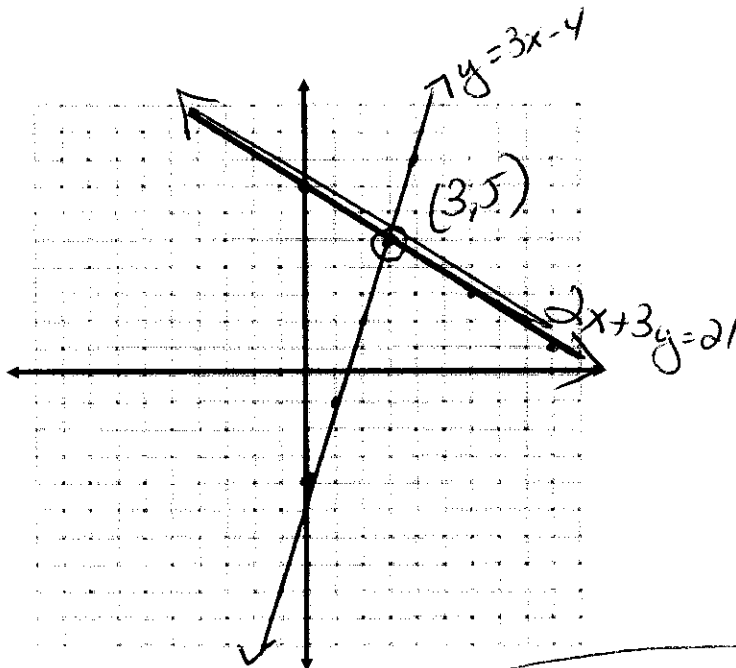


11. Plot each of the following points on the grid below. Use the letter to label the point on the graph. Also identify the quadrants on the grid below.

A(3,0) B(5,5) C(-1,2) D(-3,-2) E(0,-3)



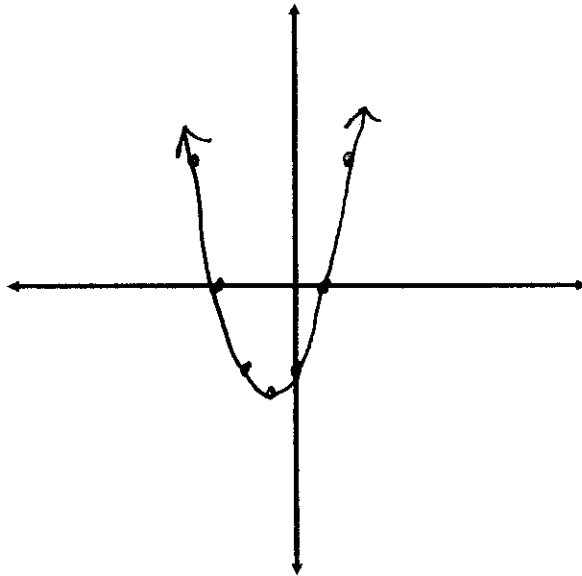
12. Solve the following system graphically: $y = 3x - 4$ $m = 3$ $b = -4$
 $2x + 3y = 21$



$$\begin{array}{r} 2x + 3y = 21 \\ -2x \qquad -2x \\ \hline 3y = -2x + 21 \\ \frac{3y}{3} = \frac{-2x + 21}{3} \\ y = -\frac{2}{3}x + 7 \\ m = -\frac{2}{3} \\ b = 7 \end{array}$$

Solution = (3, 5)

13. Graph the following: $y = x^2 + 2x - 3$



x	y
-4	5
-3	0
-2	-3
-1	-4
0	-3
1	0
2	5

14. Find the slope between each pair of points:

$(-3, 5) (2, 7) \quad m = \frac{7-5}{2-(-3)} = \frac{2}{5}$
 $(4, -3) (95, -3) \quad m = 0$
 $(6, -4) (6, 3.33) \quad m = \text{undefined}$

15. Solve the following system using substitution:

$5x - y = 5$
 $5x - 3y = 15$

$5x = y + 5$
 $(y + 5) - 3y = 15$
 $5 - 2y = 15$
 $-2y = 10$
 $y = -5$

$5x - y = 5$
 $5x - (-5) = 5$
 $5x + 5 = 5$
 $5x = 0$
 $x = 0$

$(0, -5)$

16. Reduce to simplest radical form: $\sqrt{72}$

$\sqrt{72} = \sqrt{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3} = 2 \cdot 3 \sqrt{2} = 6\sqrt{2}$

17. Reduce to simplest radical form: $\sqrt{180}$

$\sqrt{180} = \sqrt{2 \cdot 2 \cdot 3 \cdot 3 \cdot 5} = 2 \cdot 3 \sqrt{5} = 6\sqrt{5}$