

Name: _____
 Date: Key
 Period: _____

Geometry Chapter 0 Study Guide

State which metric unit you would probably use to measure each item.

1. Length of a notebook

cm

2. Radius of a tennis ball

cm or mm

Big → Small
 multiply
 Small → Big
 Divide

3. Complete each sentence

A. 120 in = 10 ft

$$\frac{120}{12} = 10$$

C. 10 km = 10000 m

$$10 \cdot 1000 = 10000$$

E. 32 fl oz = 4 c

$$1 \text{ cup} = 8 \text{ fl oz}$$

$$\frac{32}{8} = 4 \text{ c}$$

G. 4 gal = 16 qt

$$4 \cdot 4 = 16 \text{ qt}$$

I. 8 yd = 24 ft

$$1 \text{ yd} = 3 \text{ ft}$$

$$8 \cdot 3 = 24 \text{ ft}$$

B. 8 in ≈ 20.32 cm

$$1 \text{ in} = 2.54 \text{ cm}$$

$$8 \cdot 2.54 = 20.32$$

D. 10 mi ≈ 16 km

$$1 \text{ mi} = 1.6 \text{ km}$$

$$10 \cdot 1.6 = 16$$

F. 600 in ≈ 15.24 m

$$600 \cdot 2.54 = \frac{1524 \text{ cm}}{100} = 15.24 \text{ m}$$

$$1 \text{ m} = 100 \text{ cm}$$

H. 82.5 g ≈ 3.3 oz

$$1 \text{ g} \approx 0.04 \text{ oz} = 3.3 \text{ oz}$$

J. 9.5 L ≈ 10.45 qt

$$1 \text{ L} \approx 1.1 \text{ qt}$$

$$9.5 \cdot 1.1 = 10.45 \text{ qt}$$

Solve each equation

4. $5(m-1) = -25$

$$\begin{array}{r} 5m - 5 = -25 \\ +5 \quad +5 \end{array}$$

$$\frac{5m}{5} = \frac{-20}{5} \quad \boxed{m = -4}$$

5. $3n+7=28$

$$\begin{array}{r} 3n + 7 = 28 \\ -7 \quad -7 \end{array}$$

$$\frac{3n}{3} = \frac{21}{3} \quad \boxed{n = 7}$$

6. $\frac{7}{4}a - 2 = -5$

$$\frac{4}{7} \cdot \frac{7}{4} a = -3 \cdot \frac{4}{7}$$

$$\boxed{a = \frac{-12}{7}}$$

Solve and graph each inequality

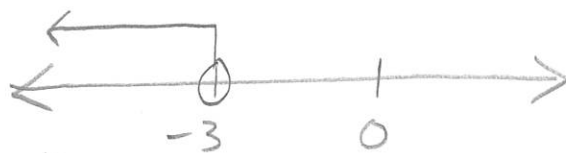
7. $-3n - 8 > 2n + 7$

$$\begin{array}{r} -3n - 8 > 2n + 7 \\ -2n \quad -2n \end{array}$$

$$\begin{array}{r} -5n - 8 > 7 \\ +8 \quad +8 \end{array}$$

$$\begin{array}{r} -5n > 15 \\ -5 \quad -5 \end{array}$$

$$\boxed{n < -3}$$

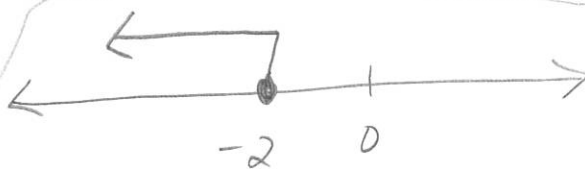


8. $3z + 8 \leq 2$

$$\begin{array}{r} 3z + 8 \leq 2 \\ -8 \quad -8 \end{array}$$

$$\frac{3z}{3} \leq \frac{-6}{3}$$

$$\boxed{z \leq -2}$$

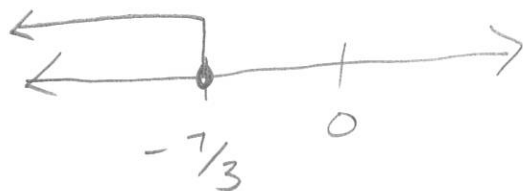


9. $-3w + 1 \geq 8$

$$\begin{array}{r} -3w + 1 \geq 8 \\ -1 \quad -1 \end{array}$$

$$\begin{array}{r} -3w \geq 7 \\ -3 \quad -3 \end{array}$$

$$\boxed{w \leq -\frac{7}{3}}$$



Write the ordered pair and name the quadrant in which each point is located

10. B

$(-2, 3)$ II

11. J

$(-1, -1)$ III

12. P

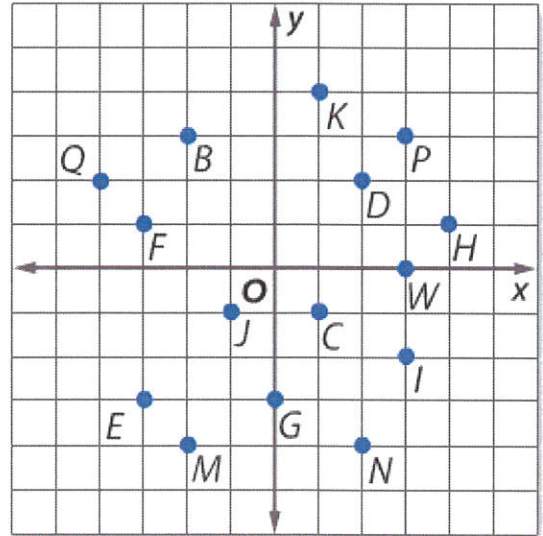
$(3, 3)$ I

13. G

$(0, -3)$ None

14. I

$(3, -2)$ IV



Graph and label each point and name the quadrant in which each point is located

15. M(-1,3)

II

16. S(2,0)

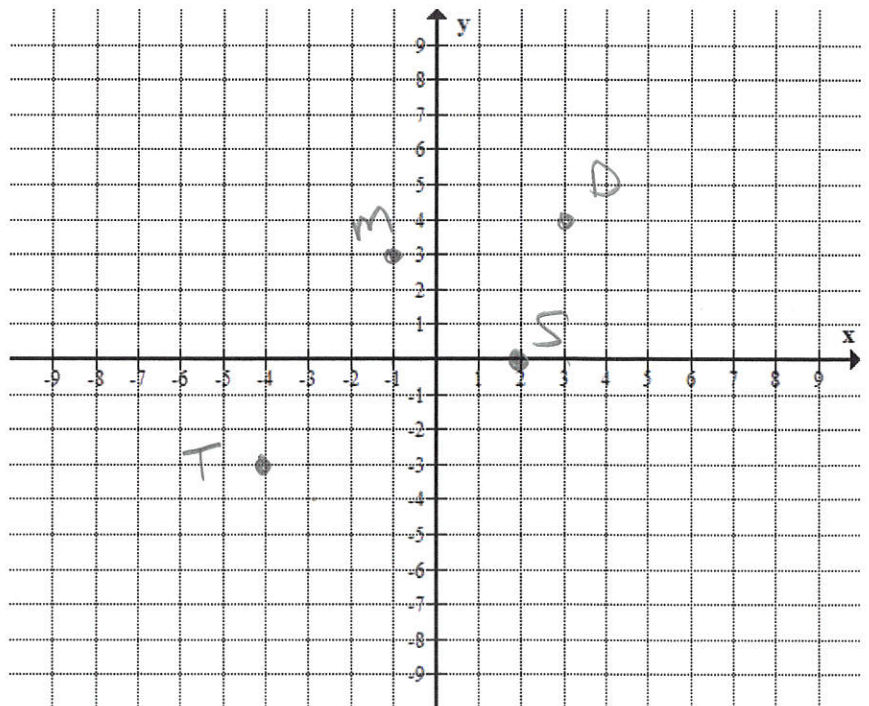
None

17. D(3,4)

I

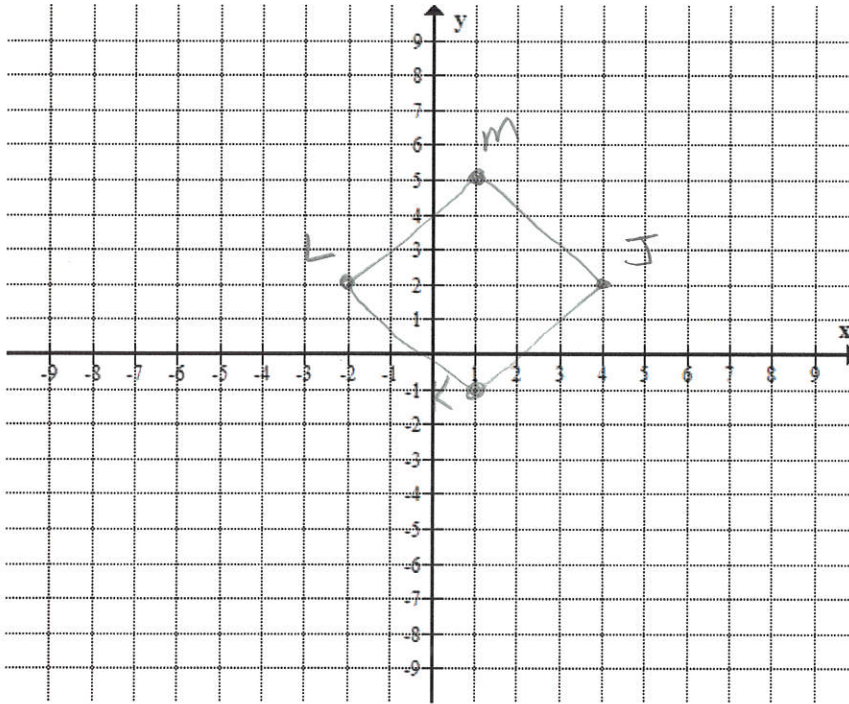
18. T(-4,-3)

III



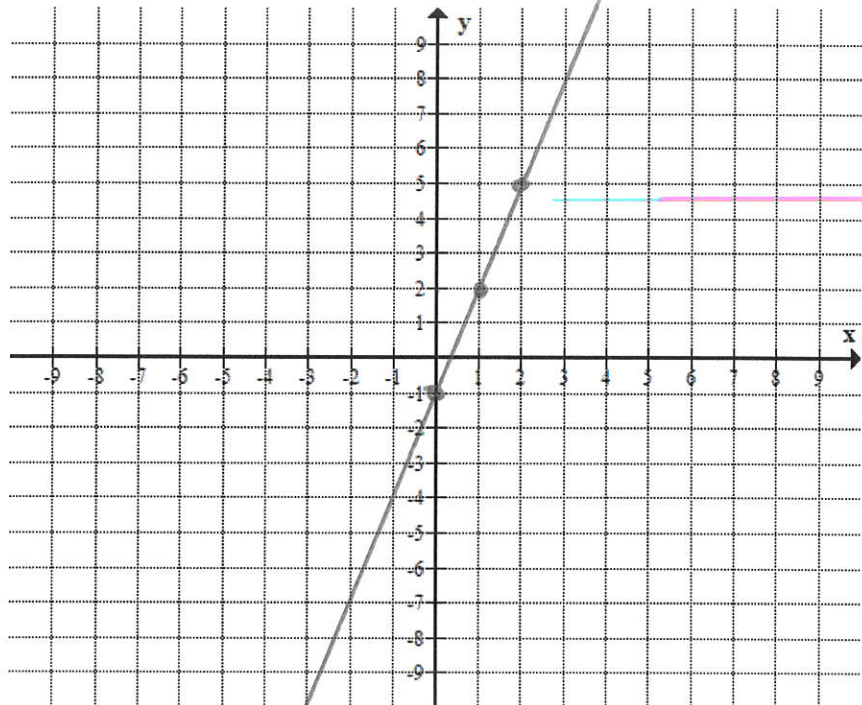
Graph the following geometric figure

19. A polygon with vertices J(4,2), K(1,-1), L(-2,2) and M(1,5)



Create a function table for the equation and use it to graph four points on this equation

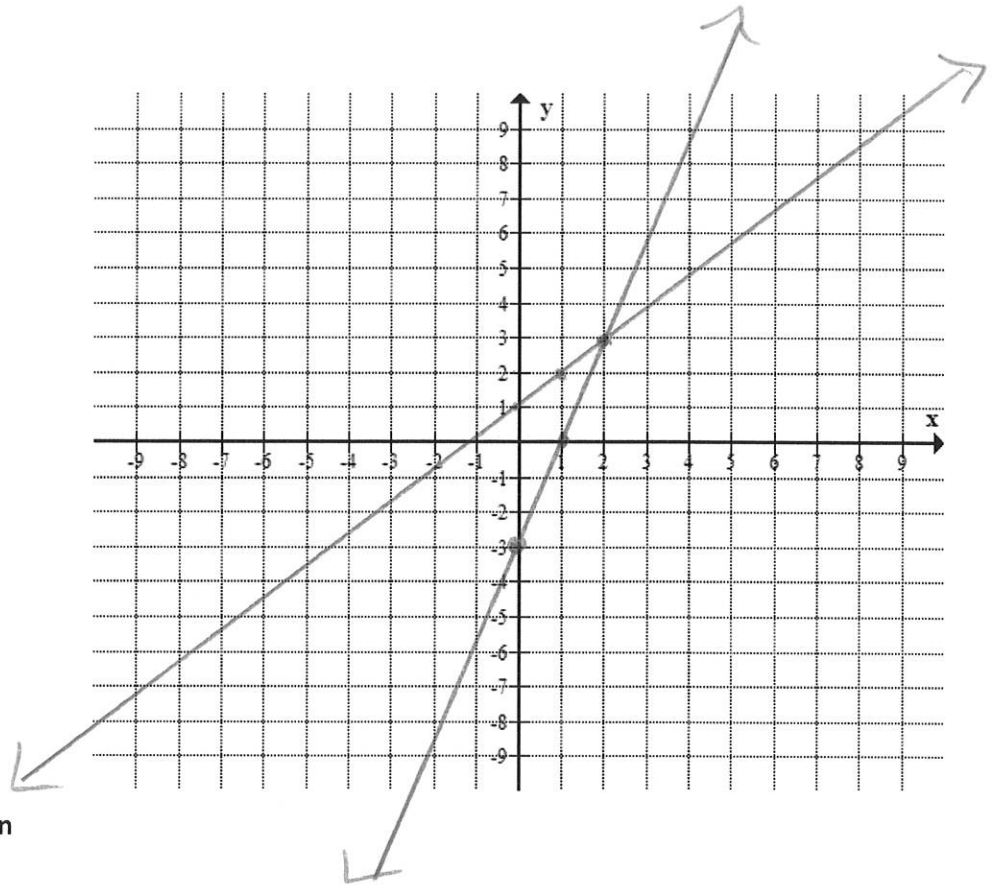
20. $y = 3x - 1$



Solve the system by graphing

21. $y = 3x - 3$
 $y = x + 1$

$(2, 3)$



Solve the system by substitution

22. $-5x + 3y = 12$
 $x = -2y + 2$

$-5(-2y + 2) + 3y = 12$

$10y - 10 + 3y = 12$

$13y - 10 = 12$

$\frac{13y}{13} = \frac{22}{13}$

$y = \frac{22}{13} \approx 1.692307692$

$x = -\frac{2}{1} \left(\frac{22}{13} \right) + 2$

$= \frac{-44}{13} + \frac{2 \cdot 13}{1 \cdot 13} = \frac{-44}{13} + \frac{26}{13}$

$x = \frac{-18}{13}$

$\left(\frac{-18}{13}, \frac{22}{13} \right)$

Solve the system by elimination

23. $(3y + x = 3) \cdot 5$
 $2y - 5x = -15$

$15y + 5x = 15$
 $2y - 5x = -15$

$\frac{17y}{17} = \frac{0}{17}$

$y = 0$

$3 \cdot 0 + x = 3$

$x = 3$

~~$(0, 3)$~~

$(3, 0)$

Simplify each expression.

24. $\sqrt{125}$

$$\boxed{5\sqrt{5}}$$

$$\begin{array}{r} 125 \\ \wedge \\ 5 \ 25 \\ \hline \quad \wedge \\ \quad 5 \ 5 \\ \quad \circ \end{array}$$

25. $\sqrt{98x^3y^6}$

$$\boxed{7xy^3\sqrt{2x}}$$

$$\begin{array}{r} 98 \\ \wedge \\ 14 \ 49 \\ \hline \quad \wedge \\ \quad 7 \ 7 \\ \quad \circ \end{array} \quad \begin{array}{l} \circ x \cdot x \circ x \\ \circ y \cdot y \circ y \cdot y \circ y \cdot y \\ y \cdot y \cdot y \end{array}$$

26. $\frac{\sqrt{121}}{\sqrt{16}} = \frac{\sqrt{121}}{\sqrt{16}} = \boxed{\frac{11}{4}}$

27. $\frac{3}{\sqrt{48}} \cdot \frac{\sqrt{48}}{\sqrt{48}} = \frac{3\sqrt{48}}{48 \div 3} = \boxed{\frac{\sqrt{48}}{16}}$

28. $\frac{4}{5-2\sqrt{3}} \cdot \frac{(5+2\sqrt{3})}{(5+2\sqrt{3})} = \frac{20+8\sqrt{3}}{25-4 \cdot 3} = \frac{20+8\sqrt{3}}{25-12} = \boxed{\frac{20+8\sqrt{3}}{13}}$