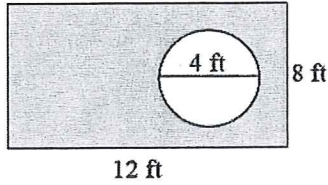


Show ALL Work and FORMULAS!!!!

*Round to nearest
*note all angles that are rt, C's,
look like rt ang*

13. Find the area of the shaded region.
The diameter of the circle is 4 ft.



Area = 83.44 ft²

$$A = bh$$

$$= 8 \cdot 12$$

$$= 96 \text{ ft}^2$$

$$A = \pi r^2$$

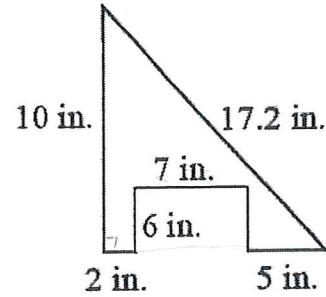
$$= 3.14 \cdot 2^2$$

$$= 3.14 \cdot 4$$

$$= 12.56$$

$$\begin{array}{r} 96. \\ - 12.56 \\ \hline 83.44 \end{array}$$

- 12.



Per = 53.2 in

Area = 28 in²

$$A = \frac{1}{2}bh$$

$$= \frac{1}{2} \cdot 14 \cdot 10$$

$$= \frac{1}{2} \cdot 140$$

$$= 70 \text{ in}^2$$

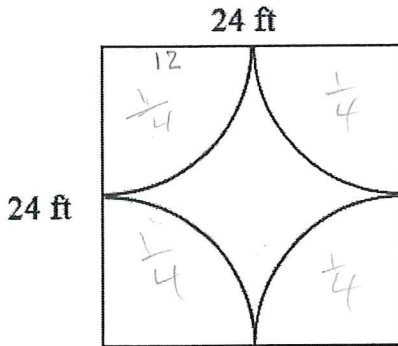
$$A = bh$$

$$= 7 \cdot 6$$

$$= 42$$

$$\begin{array}{r} 70 \\ - 42 \\ \hline 28 \end{array}$$

22. Find the area of the center region bounded by four congruent quarter circles.



Area = 123.84 ft²

$$A = bh$$

$$= 24 \cdot 24$$

$$= 576$$

$$A = \pi r^2$$

$$= 3.14 \cdot 12^2$$

$$= 3.14 \cdot 144$$

$$= 452.16 \text{ whole circle}$$

$$\begin{array}{r} 576 \\ - 452.16 \\ \hline 123.84 \end{array}$$

Solve for X. Show all steps and work. Re-write the problems on a separate sheet of paper ^{or} use this paper but number the problems so I can easily find them ☺

1. $\frac{1}{6}x + \frac{2}{3}x = 5$

① $\frac{1}{6}x + \frac{2}{3}x = 5$

$\frac{1}{6}x + \frac{4}{6}x = 5$

$\left(\frac{6}{5}\right) \frac{5}{6}x = 5 \left(\frac{6}{5}\right)$

$x = \frac{30}{5}$

$x = 6$

3. $\frac{6}{15} = \frac{x-2}{40}$

③ $\frac{6}{15} = \frac{x-2}{40}$

$\left(\frac{120}{15}\right) \frac{6}{15} = \frac{x-2}{40} \left(\frac{120}{40}\right)$

$8 \cdot 6 = (x-2) \cdot 3$

$48 = 3x - 6$

$\frac{54}{3} = \frac{3x}{3}$

$18 = x$

5. $\frac{x}{2} - 4 = \frac{x}{3}$

⑤ $\frac{x}{2} - 4 = \frac{x}{3}$

$6\left(\frac{x}{2} - 4\right) = 6\left(\frac{x}{3}\right)$

$\frac{6x}{2} - 24 = \frac{6x}{3}$

$3x - 24 = 2x$

$-3x \quad -3x$

$(-1) - 24 = -x(-1)$

$24 = x$

7. $\frac{x}{10} + \frac{5}{12} = 3x - 1$

⑦ $\frac{x}{10} + \frac{5}{12} = 3x - 1$

$60\left(\frac{x}{10} + \frac{5}{12}\right) = 60(3x - 1)$

$6x + 25 = 180x - 60$

$-6x \quad -6x$

$\frac{85}{174} = \frac{174x}{174}$

$\frac{85}{174} = x$

12. $x + 3\frac{2}{3} = 2x + \frac{1}{3}$

⑨ $0.2x + x = 30$

$\frac{1.2x}{1.2} = \frac{30}{1.2}$

$x = 25$

6. $\frac{x}{4} - 3 = \frac{x+4}{6} - 2$

8. $\frac{2x-2}{6} - \frac{1}{2} = \frac{x}{2} - 2$

⑫ $x + 3\frac{2}{3} = 2x + \frac{1}{3}$

$x + \frac{11}{3} = 2x + \frac{1}{3}$

$-x \quad -x$

$3\frac{1}{3} = \frac{10}{3} = x$

⑥ $\frac{x}{4} - 3 = \frac{x+4}{6} - 2$

$12\left(\frac{x}{4} - 3\right) = 12\left(\frac{x+4}{6} - 2\right)$

$3x - 36 = 2(x+4) - 24$

$3x - 36 = 2x + 8 - 24$

$3x - 36 = 2x - 16$

$x - 36 = -16$

$x = 20$

⑧ $\frac{2x-2}{6} - \frac{1}{2} = \frac{x}{2} - 2$

$12\left(\frac{2x-2}{6} - \frac{1}{2}\right) = 12\left(\frac{x}{2} - 2\right)$

$2(2x-2) - 6 = 6x - 24$

$4x - 4 - 6 = 6x - 24$

$4x - 10 = 6x - 24$

$-4x \quad -4x$

$-10 = 2x - 24$

$\frac{14}{2} = \frac{2x}{2}$

$7 = x$

Here some more to try. For the following problems, refer to the figures below:

Figure A

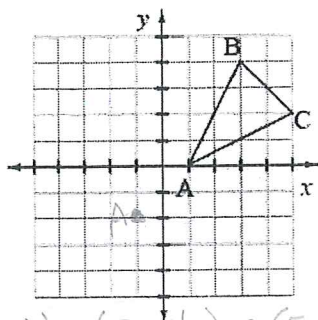


Figure B

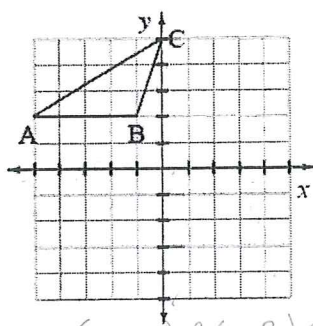
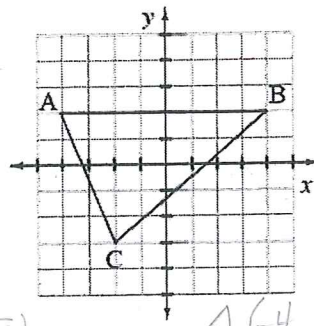


Figure C



$A(1, 0) B(3, 4) C(5, 2)$

$A(-5, 2) B(-1, 2) C(0, 5)$

$A(-4, 2) B(4, 2) C(-2, -3)$

State the new coordinates after each transformation.

1. Translate figure A left 2 units and down 2 units. $(-1, -2)$, $(-1, 2)$, $(3, 0)$
2. Rotate figure C 180° counterclockwise about the origin. $(4, 2)$, $(4, 2)$, $(2, 3)$
3. Reflect figure B across the y-axis. $(5, 2)$, $(1, 2)$, $(0, 5)$
4. Reflect figure B across the x-axis. $(-5, -2)$, $(-1, -2)$, $(0, -5)$
5. Translate figure A right 4 units and up 1 unit. $(5, 1)$, $(7, 5)$, $(9, 3)$
6. Reflect figure C across the y-axis. $(4, 2)$, $(-4, 2)$, $(2, -3)$
7. Rotate figure B 270° counterclockwise about the origin. $(5, 2)$, $(1, 2)$, $(0, 5)$
17. Dilate figure C by a scale factor of $\frac{1}{2}$ from the origin. $(-2, 1)$, $(2, 1)$, $(-1, -1\frac{1}{2})$
18. Translate figure C 3 units right and 2 units down. $(-1, 0)$, $(7, 0)$, $(1, -5)$
19. Rotate figure C 180° about the origin clockwise. $(4, -2)$, $(-4, -2)$, $(2, 3)$
20. Dilate figure A by a scale factor of 2 from the origin. $(2, 0)$, $(6, 8)$, $(10, 4)$

Solve for X. Re-write each equation on another sheet of paper and SHOW all steps. Circle your final answer!

13. $-x - 3 = 2x - 6$

14. $10 = x + 5 + x$

15. $2x - 1 - 1 = x - 3 - (-5 + x)$

16. $3 + 3x - x + 2 = 3x + 4$

17. $-4 + 3x - 1 = 2x + 1 + 2x$

18. $2x - 7 = -x - 1$

19. $7 = 3x - 4 - (x + 2)$

20. $5y + (-y - 2) = 4 + y$

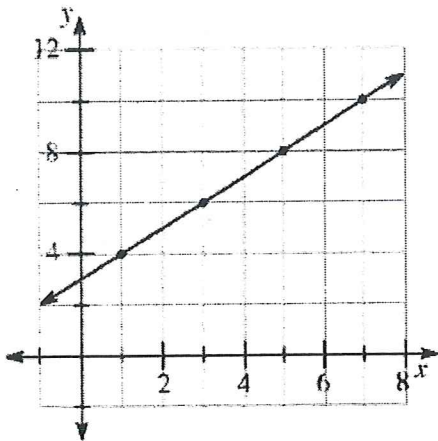
Answers on separate sheet ~ last page of this document!

For each situation below, create a table, graph and/or rule. You will need to make the graphs on a separate piece of graph paper. You will not enough room here. Attach your paper to this packet. Make sure you label your problems and work!!!

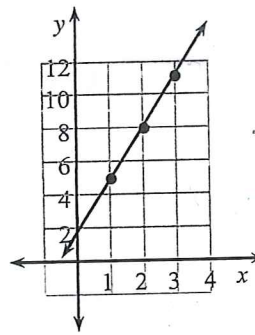
x	1	2	3	4
y	4	5	6	7

1.

$y = x + 3$



2.



$y = 3x + 2$

x	0	1	2	3
y	2	5	8	11

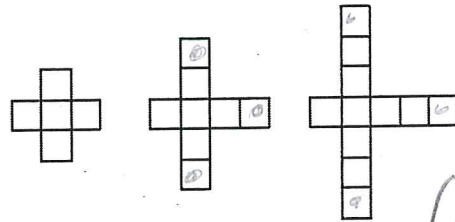
3.

$y = 3x - 2$

x	0	1	2	3
y	-2	1	4	7

(graph on next page)

4.



Rule $y = 3x + 2$

Figure 1 Figure 2

Figure 3

(graph on next page)

5.

x	1			4
y	1.5			3

rule $y = \frac{1}{2}x + 1$

(graph on next page)

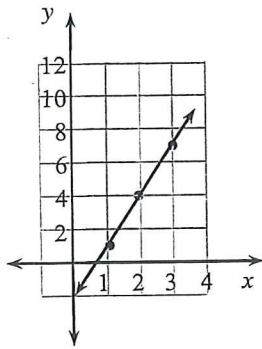
6. $y = -4x + 12$

x	0	1	2	3
y	12	8	4	0

(graph on next page)

3.

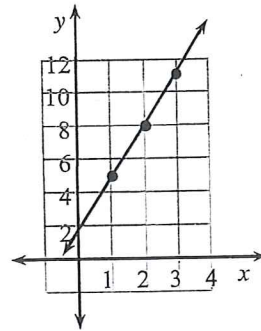
x	0	1	2	3
y	-2	1	4	7



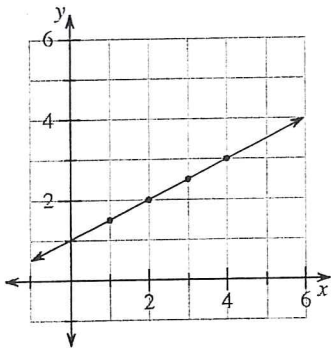
4.

x	0	1	2	3
y	2	5	8	11

$$y = 3x + 2$$



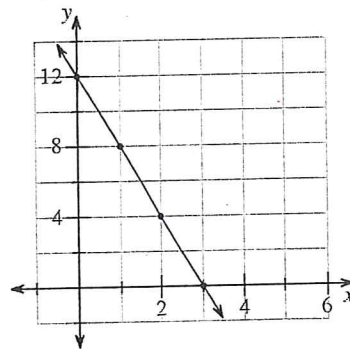
5.



$$y = \frac{1}{2}x + 1$$

6.

x	0	1	2	3
y	12	8	4	0



↓ Keep scrolling for more answers and work!

$$\begin{array}{r} \textcircled{13.} \quad -x - 3 = 2x - 6 \\ +x \qquad \qquad +x \\ \hline -3 = 3x - 6 \\ +6 \qquad \qquad +6 \\ \hline 3 = 3x \\ \frac{3}{3} = \frac{3x}{3} \\ \hline 1 = x \end{array}$$

$$\begin{array}{r} \textcircled{14.} \quad 10 = x + 5 + x \\ 10 = 2x + 5 \\ -5 \qquad \qquad -5 \\ \hline 5 = 2x \\ \frac{5}{2} = \frac{2x}{2} \\ \hline \textcircled{2\frac{1}{2} = x} \end{array}$$

$$\begin{array}{r} \textcircled{15.} \quad 2x - 1 - 1 = x - 3 - (-5 + x) \\ 2x - 2 = x - 3 + 5 - x \\ 2x - 2 = 2 \\ +2 \qquad +2 \\ \hline 2x = 4 \\ \frac{2x}{2} = \frac{4}{2} \\ \hline \textcircled{x = 2} \end{array}$$

$$\begin{array}{r} \textcircled{16.} \quad 3 + 3x - x + 2 = 3x + 4 \\ 5 + 2x = 3x + 4 \\ -2x \qquad -2x \\ \hline 5 = x + 4 \\ -4 \qquad -4 \\ \hline \textcircled{1 = x} \end{array}$$

$$\begin{array}{r} \textcircled{17.} \quad -4 + 3x - 1 = 2x + 1 + 2x \\ 3x - 5 = 4x + 1 \\ +5 \qquad \qquad +5 \\ \hline 3x = 4x + 6 \\ -4x \qquad -4x \\ \hline (-1) - x = 6(-1) \\ \textcircled{x = 6} \end{array}$$

$$\begin{array}{r} \textcircled{18.} \quad 2x - 7 = -x - 1 \\ +x \qquad \qquad +x \\ \hline 3x - 7 = -1 \\ +7 \qquad +7 \\ \hline 3x = 6 \\ \frac{3x}{3} = \frac{6}{3} \\ \hline \textcircled{x = 2} \end{array}$$

$$\begin{array}{r} \textcircled{19.} \quad 7 = 3x - 4 - (x + 2) \\ 7 = 3x - 4 - x - 2 \\ 7 = 2x - 6 \\ +6 \qquad +6 \\ \hline 13 = 2x \\ \frac{13}{2} = \frac{2x}{2} \\ \hline \textcircled{6\frac{1}{2} = x} \end{array}$$

$$\begin{array}{r} \textcircled{20.} \quad 5y + (-y - 2) = 4 + y \\ 5y - y - 2 = 4 + y \\ 4y - 2 = 4 + y \\ +2 \qquad +2 \\ \hline 4y = 6 + y \\ -y \qquad -y \\ \hline 3y = 6 \\ \frac{3y}{3} = \frac{6}{3} \\ \hline \textcircled{y = 2} \end{array}$$