

Skill 1: 1 step equations

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$$7a = 21 \text{ and } b = 3a - 4$$



Skill 3: Variable on both sides

4. Container A and container B have leaks. Container A has 800 ml of water, and is leaking 6 ml per minute. Container B has 1000 ml, and is leaking 10 ml per minute. How many minutes, m , will it take for the two containers to have the same amount of water?



Skill 4: Proportions

7. In the first 4 games of the season, a soccer team scored a total of 10 goals. If this trend continues, how many goals can they expect to score in the remaining 18 games?



Skill 2: 2 step equations

2. Solve for "v"

$$-2 = \frac{-5 + v}{4}$$



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5. Solve for "v"

$$-7v - 7v = -15 - 5v - 4v$$



Skill 2: 2 step equations

3. SAT Connection

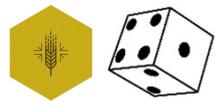
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$$\frac{5}{b + 9} = \frac{2}{6}$$



Skill 5: Similarity

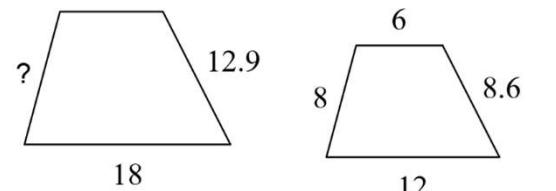
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The formula $d = rt$ is used to calculate the distance an object travels over a period of time, t , at a constant rate, r . Based on this formula, what is the rate, r , in terms of d and t ?



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12. Find the output

$$\begin{array}{c} x = -3 \\ \downarrow \\ f(x) = -2x + 4 \\ \downarrow \\ f(x) = ? \end{array}$$



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Is $(-2, 3)$ a solution to the equation $2y + x = 4$
SHOW WORK!



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14. Find the slope between the following points:

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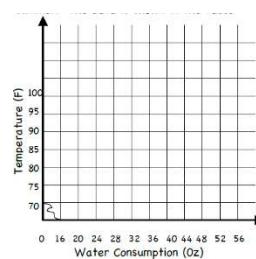
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If (x, y) is the solution to the system of equations above, what is the value of x ?



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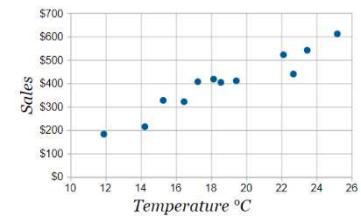


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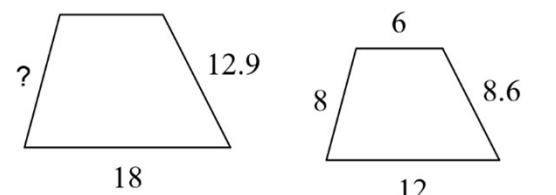
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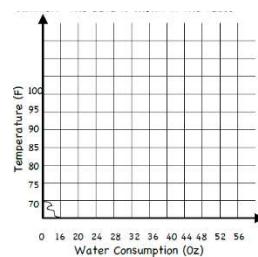
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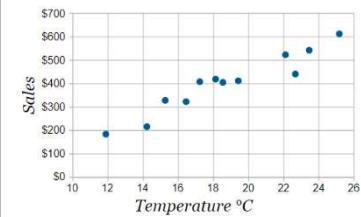


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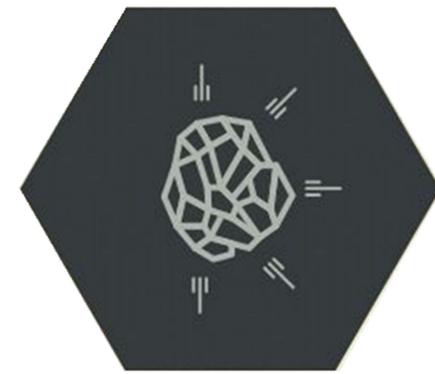
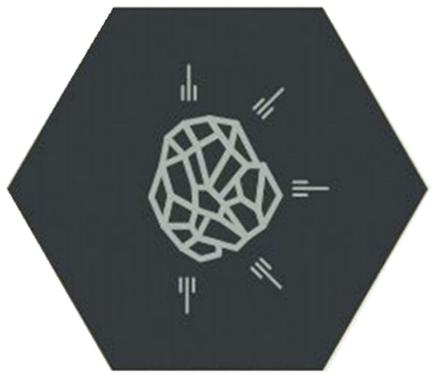
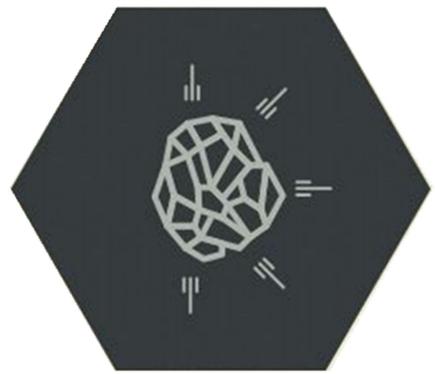
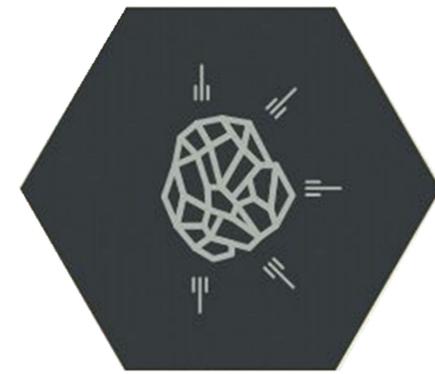
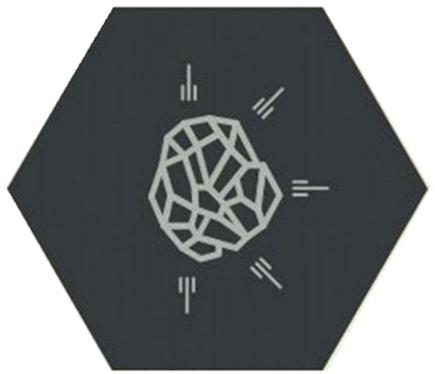
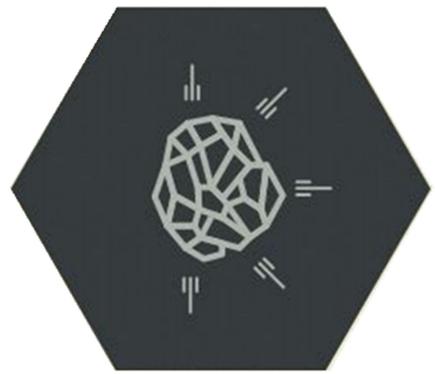
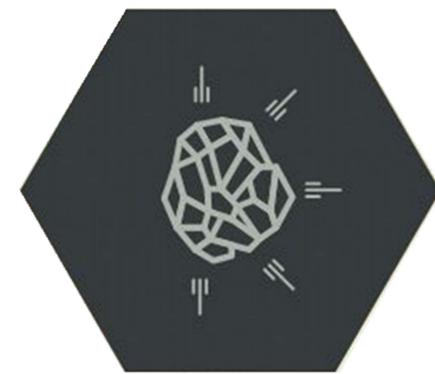
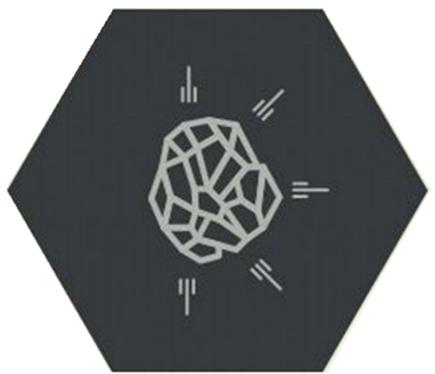
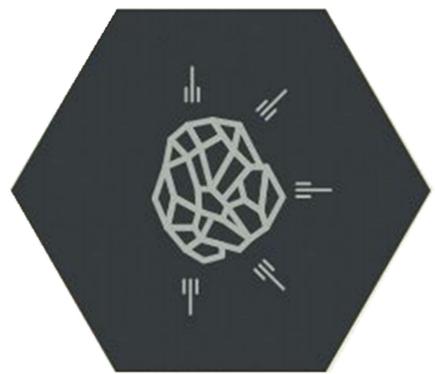
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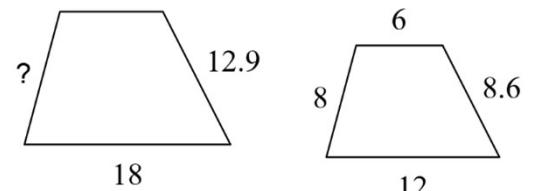
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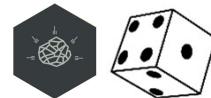
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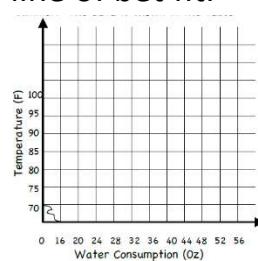
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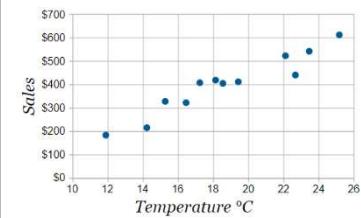


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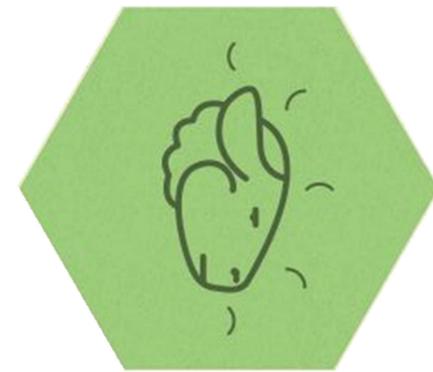
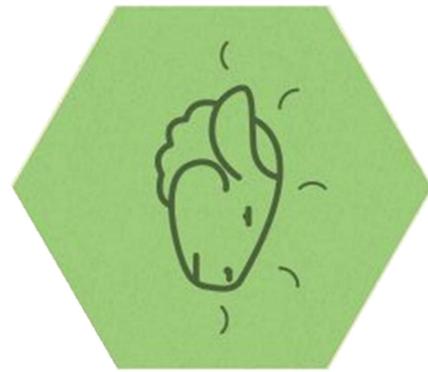
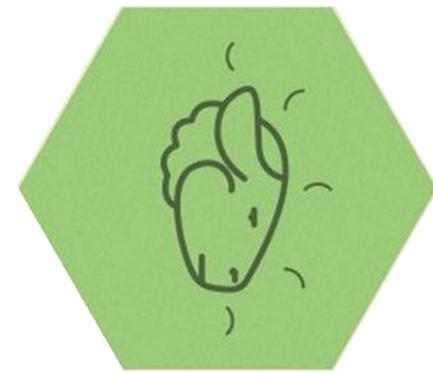
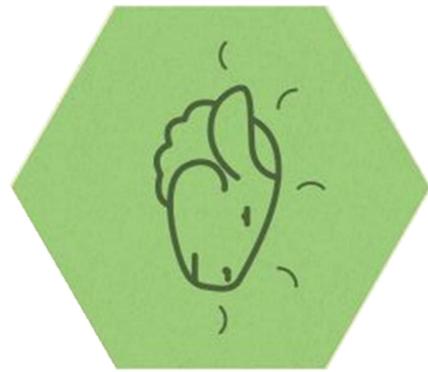
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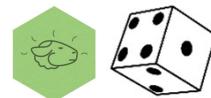




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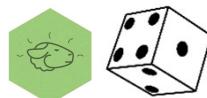
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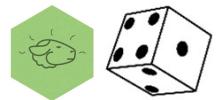
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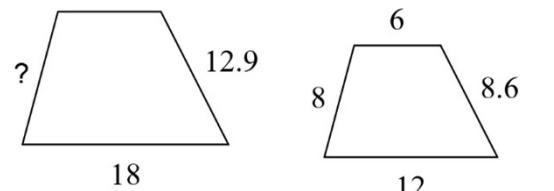
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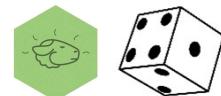
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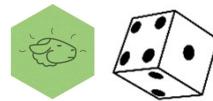
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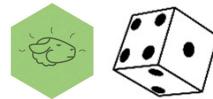
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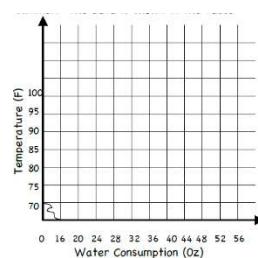
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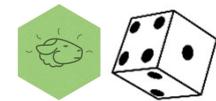
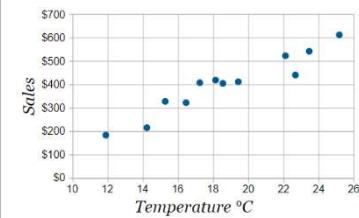


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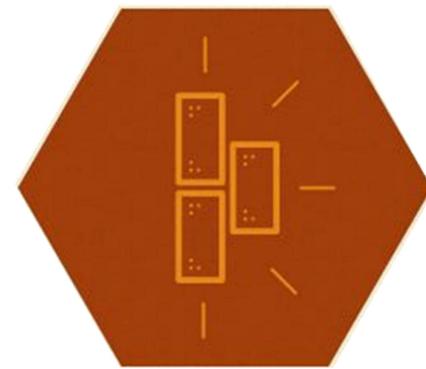
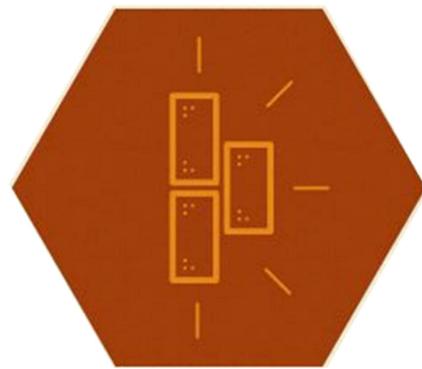
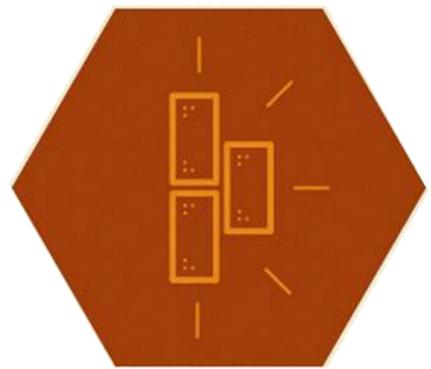
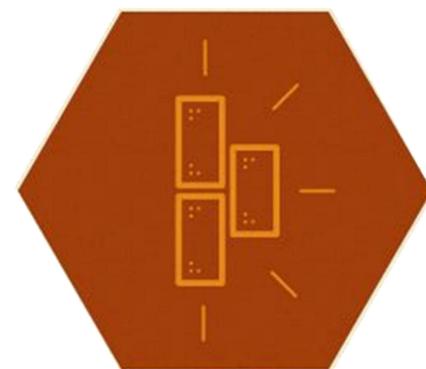
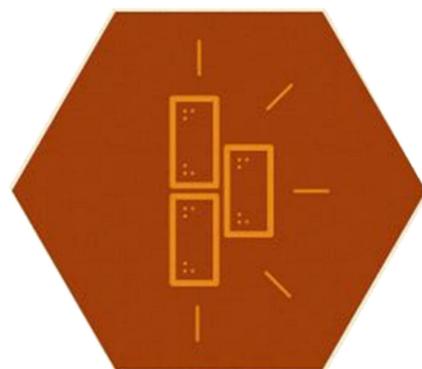
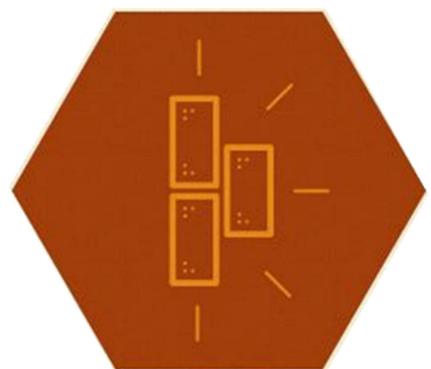
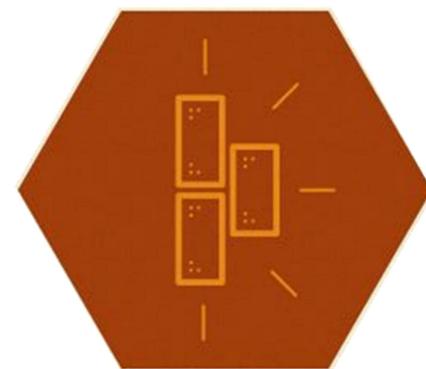
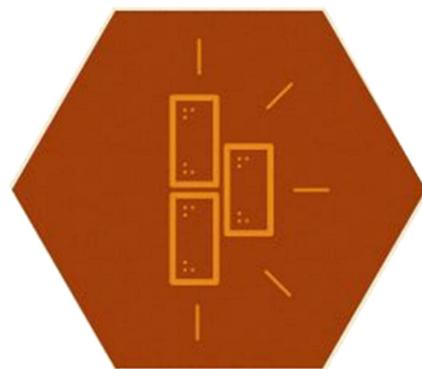
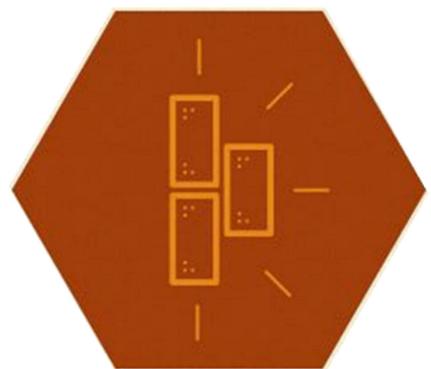
Skill 13: Systems of Equations

24. Find the solution to the following system of equations

$$y = 5x + 9$$

$$y = 8x + 18$$





Skill 1: 1 step equations

1. Use the following information to solve for "b"

$$7a = 21 \text{ and } b = 3a - 4$$



Skill 3: Variable on both sides

4. Container A and container B have leaks. Container A has 800 ml of water, and is leaking 6 ml per minute. Container B has 1000 ml, and is leaking 10 ml per minute. How many minutes, m , will it take for the two containers to have the same amount of water?



Skill 4: Proportions

7. In the first 4 games of the season, a soccer team scored a total of 10 goals. If this trend continues, how many goals can they expect to score in the remaining 18 games?



Skill 2: 2 step equations

2. Solve for "v"

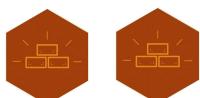
$$-2 = \frac{-5 + v}{4}$$



Skill 3: Variable on both sides

5. Solve for "v"

$$-7v - 7v = -15 - 5v - 4v$$



Skill 2: 2 step equations

3. SAT Connection

A website-hosting service charges businesses a onetime setup fee of \$350 plus d dollars for each month. If a business owner paid \$1,010 for the first 12 months, including the setup fee, what is the value of d ?



Skill 4: Proportions

6. Solve for "b"

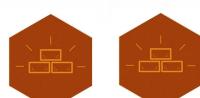
$$\frac{5}{b + 9} = \frac{2}{6}$$



Skill 5: Similarity

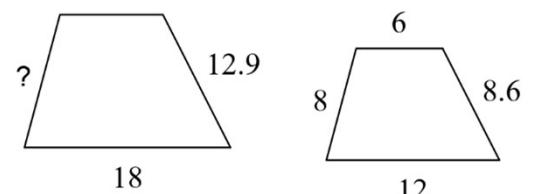
8. SAT Connection

Horsepower and watts are units of measure of power. They are directly proportional such that 5 horsepower is equal to 3730 watts. How much power, in watts, is equal to 2 horsepower?



Skill 5: Similarity

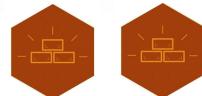
9. Find the missing side length



Skill 6: Formulas

10. SAT Connection

The formula $d = rt$ is used to calculate the distance an object travels over a period of time, t , at a constant rate, r . Based on this formula, what is the rate, r , in terms of d and t ?



Skill 6: Formulas

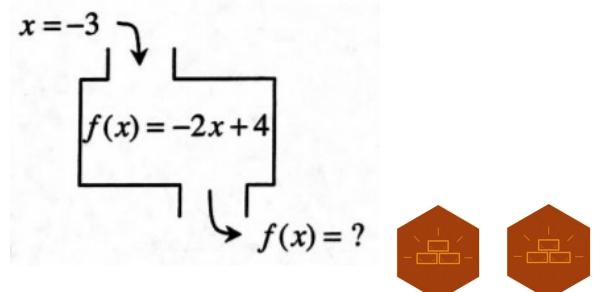
11. Solve for "r"

$$t = \frac{d}{r} + d$$



Skill 7: Graphing Functions

12. Find the output



Skill 7: Graphing Functions

13.

Is $(-2, 3)$ a solution to the equation $2y + x = 4$
SHOW WORK!



Skill 8: Slope and Y-intercept

14. Find the slope between the following points:

$$(2, 12), (-18, 16)$$



Skill 8: Slope and Y-intercept

15. Graph the following line on a whiteboard

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



Skill 9: Equation of a line through two points

16. Find the equation of the line that goes through the following points

$$(3, 3) \text{ and } (1, -3)$$



Skill 9: Equation of a line through two points

17. A line passes through the points $(-1, -7)$ and $(5, 11)$.

It also passes through another point $(7, y)$. What must the value of y be?



Skill 10: Parallel and Perpendicular

18. Write two equations that are parallel. Then write one equation that is perpendicular to those lines.



Skill 10: Parallel and Perpendicular

19. Find the equation of the line that goes through the point shown, parallel to the line shown.

(4, -3), parallel to $y = -2x - 2$



Skill 12: Inequalities

22. Graph the following on a whiteboard

$$y > 3x - 1$$



Skill 13: Systems of Equations

25. SAT Connection

5

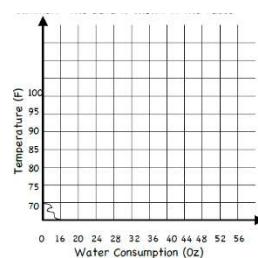
$$\begin{aligned}-3x - 4y &= 20 \\ x - 10y &= 16\end{aligned}$$

If (x, y) is the solution to the system of equations above, what is the value of x ?



Skill 11: Scatterplots

20. Use the following graph to create a scatterplot on your handout. Add a line of best fit.

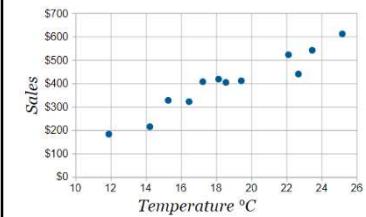


Day	Temperature (F)	Water Consumption (oz)
1	99	48
2	85	27
3	97	48
4	75	16
5	92	32
6	85	25
7	83	20



Skill 11: Scatterplots

21. Use the following graph on your handout. Draw a line of best fit and calculate the equation from two perfect points.



Skill 13: Systems of Equations

24. Find the solution to the following system of equations

$$y = 5x + 9$$

$$y = 8x + 18$$

