

### Skill 1: 1 step equations

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

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



### Skill 2: 2 step equations

2. Solve for "v"

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



### 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 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 3: Variable on both sides

5. Solve for "v"

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



### Skill 4: Proportions

6. Solve for "b"

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



### 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 5: Similarity

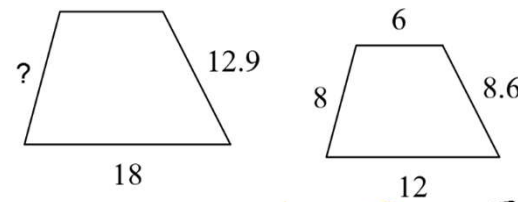
8. SAT Connection

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

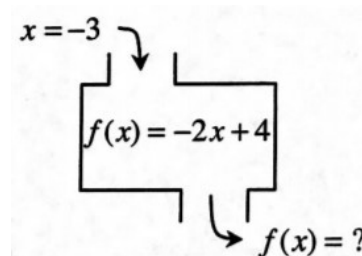
11. Solve for "r"

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



### 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

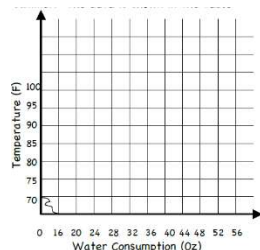
19. Find the equation of the line that goes through the point shown, parallel to the line shown.

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



### Skill 11: Scatterplots

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

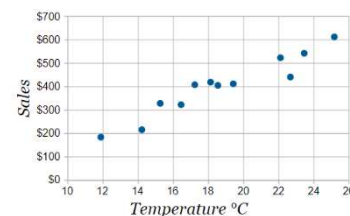


Day	Temperature (F)	Water Consumption (oz)
1	99	48
2	85	27
3	97	48
4	75	16
5	92	32
6	85	25
7	83	20



### 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 12: Inequalities

22. Graph the following on a white-board

$$y > 3x - 1$$



### Skill 12: Inequalities

23. Which of the points below are solutions to the following inequalities?

$$y \geq -5x + 1$$

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



### Skill 13: Systems of Equations

24. Find the solution to the following system of equations

$$\begin{aligned} y &= 5x + 9 \\ y &= 8x + 18 \end{aligned}$$



### 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 1: 1 step equations

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

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



### Skill 2: 2 step equations

2. Solve for "v"

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



### 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 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 3: Variable on both sides

5. Solve for "v"

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



### Skill 4: Proportions

6. Solve for "b"

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



### 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 5: Similarity

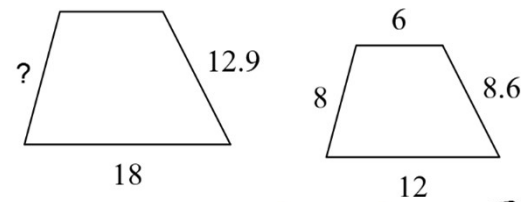
8. SAT Connection

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

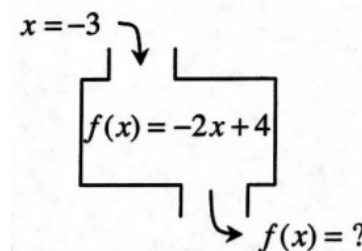
11. Solve for “ $r$ ”

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



### 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

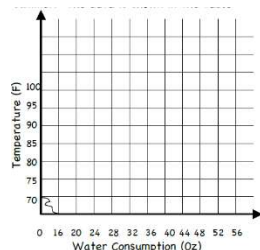
19. Find the equation of the line that goes through the point shown, parallel to the line shown.

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



### Skill 11: Scatterplots

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

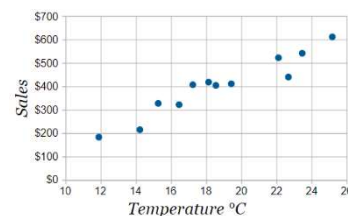


Day	Temperature (F)	Water Consumption (oz)
1	99	48
2	85	27
3	97	48
4	75	16
5	92	32
6	85	25
7	83	20



### 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 12: Inequalities

22. Graph the following on a white-board

$$y > 3x - 1$$



### Skill 12: Inequalities

23. Which of the points below are solutions to the following inequalities?

$$y \geq -5x + 1$$

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



### Skill 13: Systems of Equations

24. Find the solution to the following system of equations

$$\begin{aligned} y &= 5x + 9 \\ y &= 8x + 18 \end{aligned}$$



### Skill 13: Systems of Equations

25. SAT Connection

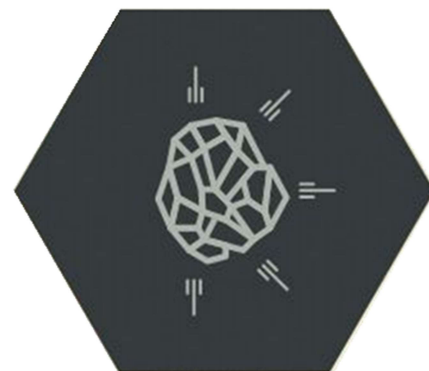
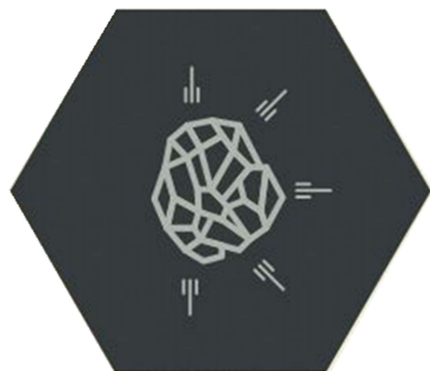
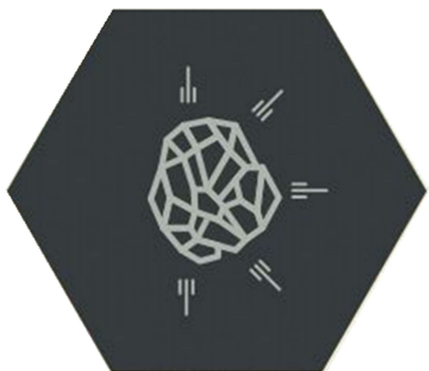
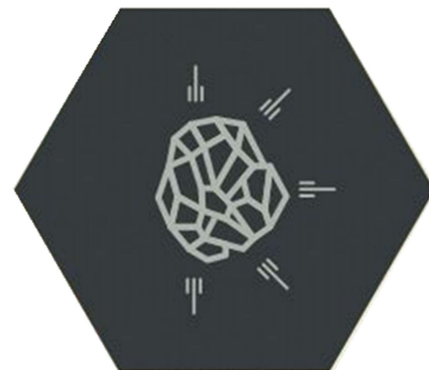
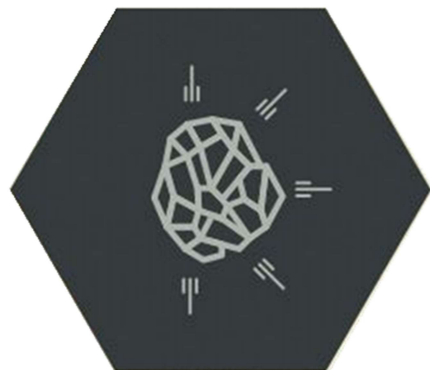
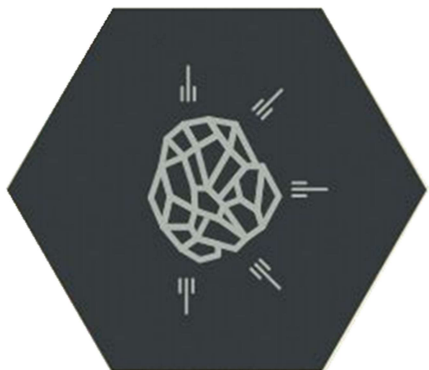
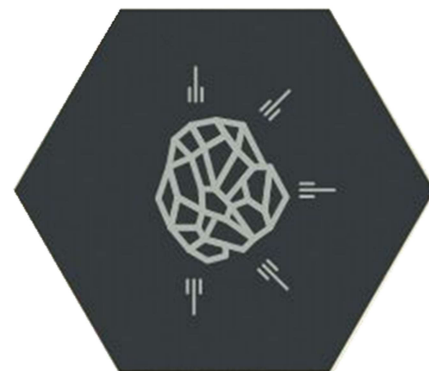
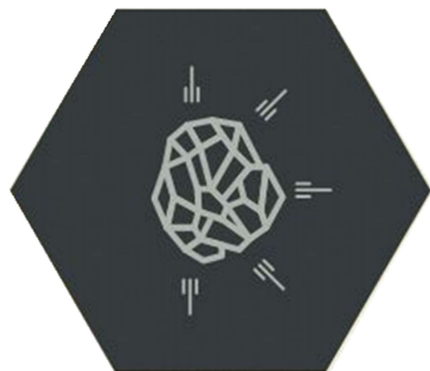
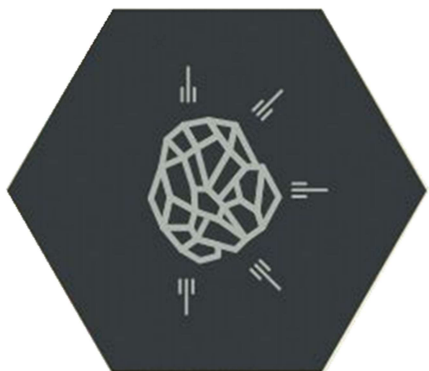
5

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

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







### Skill 1: 1 step equations

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

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



### Skill 2: 2 step equations

2. Solve for "v"

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



### 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 3: Variable on both sides

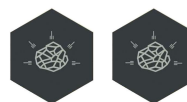
4. Container A and container B have leaks. Container A has 800 ml of water, and is leaking 6 ml per minute. Container B has 1000 ml, and is leaking 10 ml per minute. How many minutes,  $m$ , will it take for the two containers to have the same amount of water?



### Skill 3: Variable on both sides

5. Solve for "v"

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



### Skill 4: Proportions

6. Solve for "b"

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



### Skill 4: Proportions

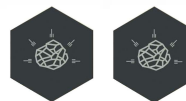
7. In the first 4 games of the season, a soccer team scored a total of 10 goals. If this trend continues, how many goals can they expect to score in the remaining 18 games?



### Skill 5: Similarity

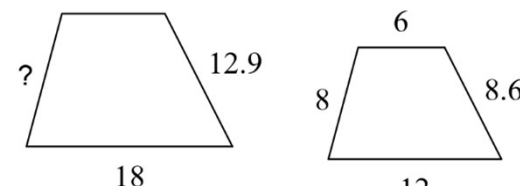
8. SAT Connection

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

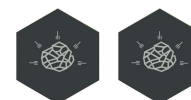
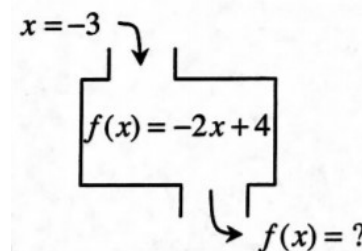
11. Solve for "r"

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



### 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

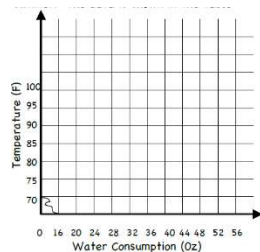
19. Find the equation of the line that goes through the point shown, parallel to the line shown.

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



### Skill 11: Scatterplots

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

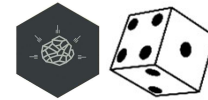
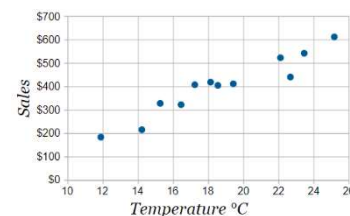


Day	Temperature (F)	Water Consumption (oz)
1	99	48
2	85	27
3	97	48
4	75	16
5	92	32
6	85	25
7	83	20



### 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 12: Inequalities

22. Graph the following on a white-board

$$y > 3x - 1$$



### Skill 12: Inequalities

23. Which of the points below are solutions to the following inequalities?

$$y \geq -5x + 1$$

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



### Skill 13: Systems of Equations

24. Find the solution to the following system of equations

$$\begin{aligned} y &= 5x + 9 \\ y &= 8x + 18 \end{aligned}$$



### Skill 13: Systems of Equations

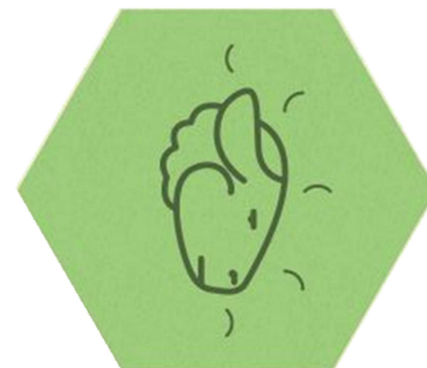
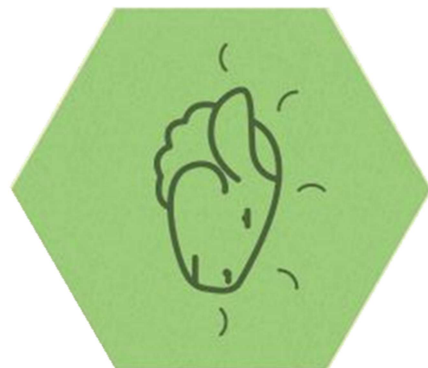
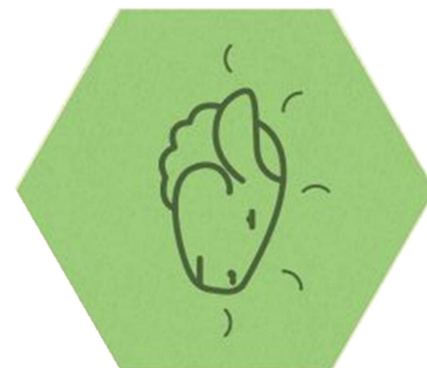
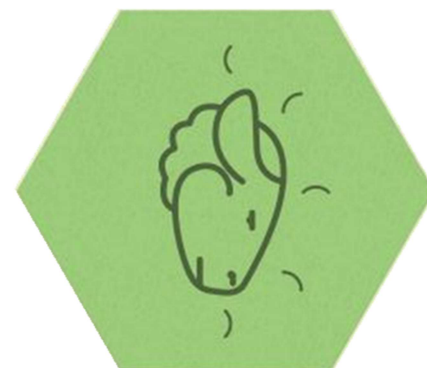
25. SAT Connection

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  $x$ ?



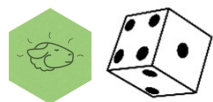




### Skill 1: 1 step equations

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

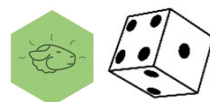
$$7a = 21 \text{ and } b = 3a - 4$$



### Skill 2: 2 step equations

2. Solve for "v"

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



### 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 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 3: Variable on both sides

5. Solve for "v"

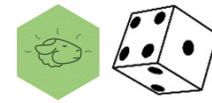
$$-7v - 7v = -15 - 5v - 4v$$



### Skill 4: Proportions

6. Solve for "b"

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



### 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 5: Similarity

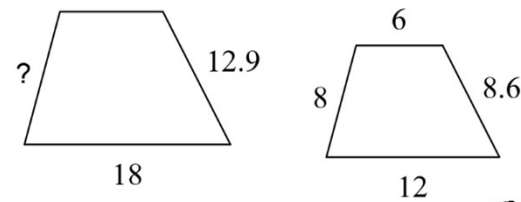
8. SAT Connection

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

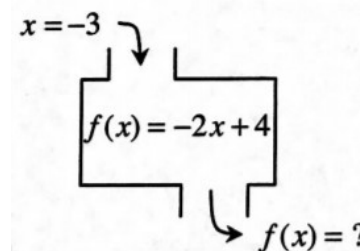
11. Solve for “ $r$ ”

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



### 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:

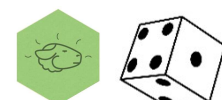
$$(2, 12), (-18, 16)$$



### Skill 8: Slope and Y-intercept

15. Graph the following line on a whiteboard

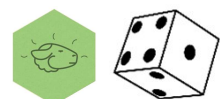
$$y = -\frac{2}{3}x - 2$$



### 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

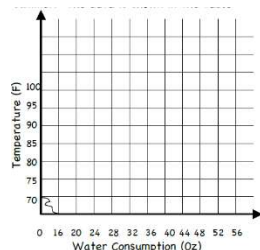
19. Find the equation of the line that goes through the point shown, parallel to the line shown.

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



### Skill 11: Scatterplots

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

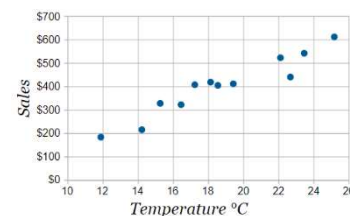


Day	Temperature (F)	Water Consumption (oz)
1	99	48
2	85	27
3	97	48
4	75	16
5	92	32
6	85	25
7	83	20



### 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 12: Inequalities

22. Graph the following on a whiteboard

$$y > 3x - 1$$



### Skill 12: Inequalities

23. Which of the points below are solutions to the following inequalities?

$$y \geq -5x + 1$$

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



### Skill 13: Systems of Equations

24. Find the solution to the following system of equations

$$y = 5x + 9$$

$$y = 8x + 18$$



### Skill 13: Systems of Equations

25. SAT Connection

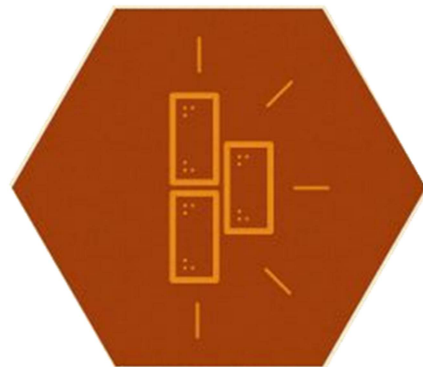
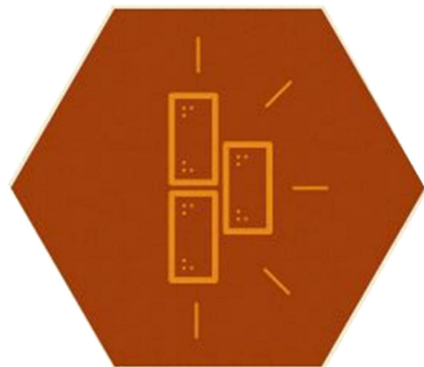
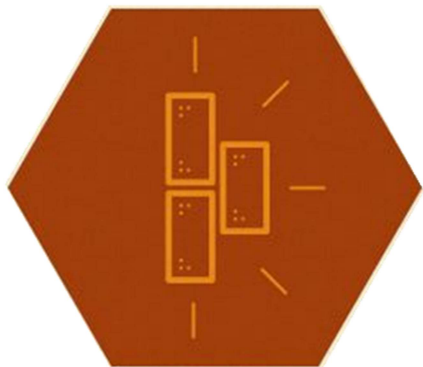
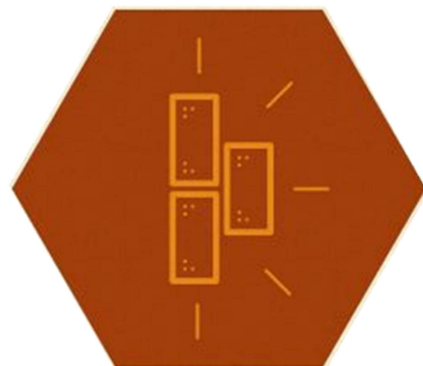
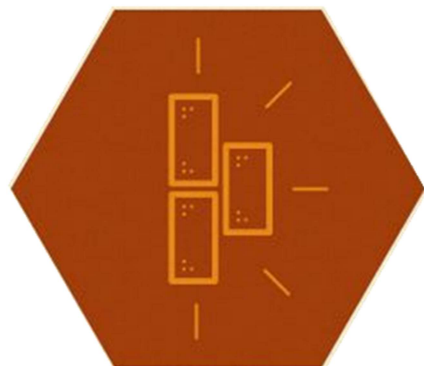
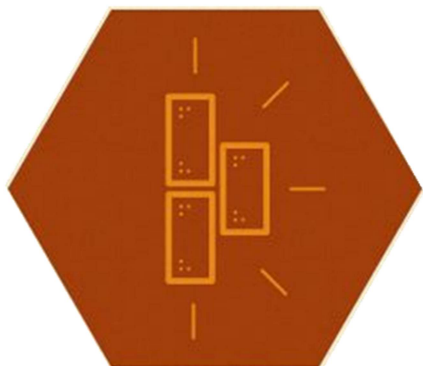
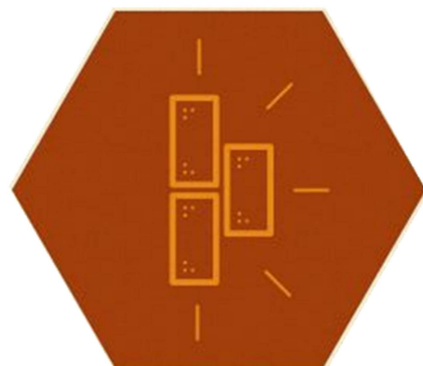
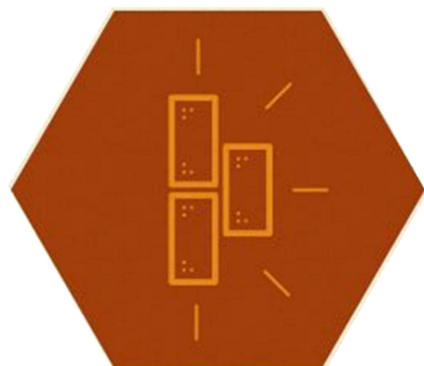
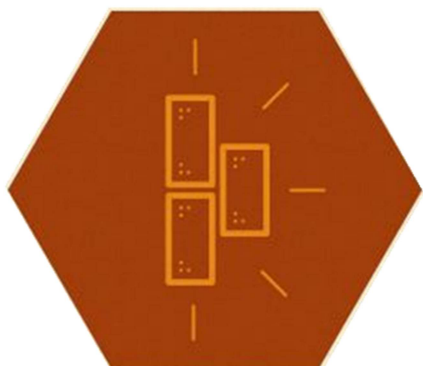
5

$$-3x - 4y = 20$$

$$x - 10y = 16$$

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







### Skill 1: 1 step equations

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

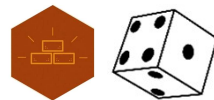
$$7a = 21 \text{ and } b = 3a - 4$$



### Skill 2: 2 step equations

2. Solve for "v"

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



### 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 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 3: Variable on both sides

5. Solve for "v"

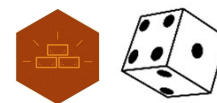
$$-7v - 7v = -15 - 5v - 4v$$



### Skill 4: Proportions

6. Solve for "b"

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



### 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 5: Similarity

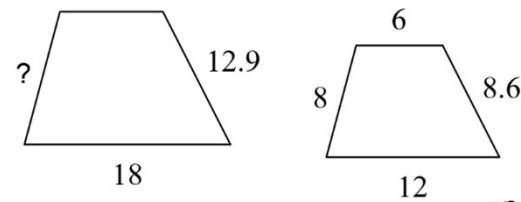
8. SAT Connection

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

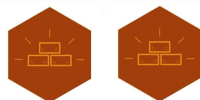




### Skill 6: Formulas

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

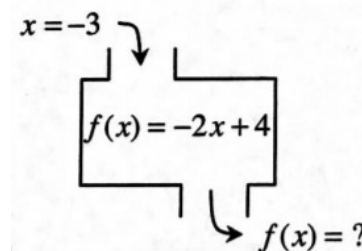
11. Solve for "r"

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



### Skill 7: Graphing Functions

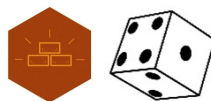
12. Find the output



### 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

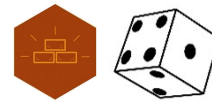
17. A line passes through the points  $(-1, -7)$  and  $(5, 11)$ .

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

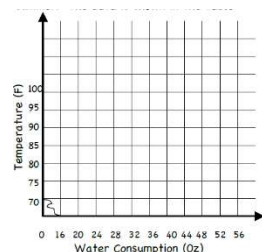
19. Find the equation of the line that goes through the point shown, parallel to the line shown.

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



### Skill 11: Scatterplots

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

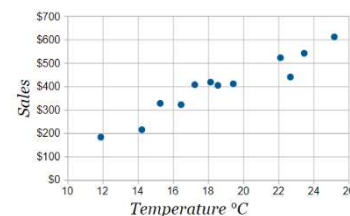


Day	Temperature (F)	Water Consumption (oz)
1	99	48
2	85	27
3	97	48
4	75	16
5	92	32
6	85	25
7	83	20



### Skill 11: Scatterplots

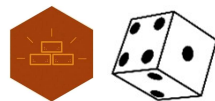
21. Use the following graph on your handout. Draw a line of best fit and calculate the equation from two perfect points.



### Skill 12: Inequalities

22. Graph the following on a white-board

$$y > 3x - 1$$



### Skill 12: Inequalities

23. Which of the points below are solutions to the following inequalities?

$$y \geq -5x + 1$$

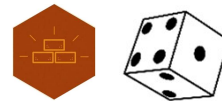
- A)  $(0, 0)$       B)  $(-2, 3)$   
C)  $(0, 4)$       D)  $(1, -4)$



### Skill 13: Systems of Equations

24. Find the solution to the following system of equations

$$\begin{aligned} y &= 5x + 9 \\ y &= 8x + 18 \end{aligned}$$



### 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  $x$ ?

