

Algebra 1 Summer Assignment

Please contact Ms. Adair – cadair@aacps.org if you have questions.

Part 1

Use the Bureau Labor Statistics Website (bls.gov) to research and summarize your findings about the use of mathematics in an occupation listed. Be sure to include required training, degrees, wages, and job outlook.

Example: Architect can be found at: <http://www.bls.gov/oco/ocos038.htm>

Part 2 Order of Operations. For support on how to complete the problems check out www.youtube.com/user/khanacademy

1) $10 \div 5 - 5 - 5$

2) $(-3) + 2 - (-5) \times 3$

3) $((-28) \times 2) \div ((-8) - (-1))$

4) $((-9) - 6) \div ((-1) - (-4))$

5) $(-10) \times 8(4 - 3)$

6) $((-17) - (8 - 1)) \div (-4)$

7) $7 + 1 - (4 - 3)$

8) $10 \times ((-10) + 1) \div (-9)$

9) $(-7) + 5 + 5 \times (-4)$

10) $((-26) + 8) \div ((-6) + 4)$

11) $(-3) + 4 - 1 + 3$

12) $(-4) \times (-7) + 9 - 10$

13) $(-4) - 12 \div 3 - 3$

14) $1 + (-9) - ((-8) - 9)$

Part 3: 2 Step Equations

Two-Step Equations

$$\begin{aligned}
 2x + 4 &= 8 \\
 \frac{2x + 4}{2} &= \frac{8}{2} \\
 x + 4 &= 4 \\
 x &= 0
 \end{aligned}$$



$$\begin{aligned}
 2x + 4 &= 8 \\
 2x + 4 - 4 &= 8 - 4 \\
 2x &= 4 \\
 x &= \frac{4}{2} \\
 x &= 2
 \end{aligned}$$

Tip

When you are solving an equation, it is usually easier to undo the addition or subtraction before undoing the multiplication or division.

Solve the equations. Write the answers in the cross-number puzzle.

Across

1. $2n + 3 = 5$
2. $3n - 15 = 45$
3. $7n - 8 = 13$
4. $2n - 4 = 28$
5. $\frac{n}{5} + 10n = 51$
6. $3n - 7 = 32$
7. $10n - 300 = 100$
8. $12n + 12 = 24$
9. $7n - 4 = 24$
10. $\frac{n}{4} + 4 = 12$
11. $8n - 138 = 1718$

Down

1. $\frac{n}{2} + 1 = 9$
2. $\frac{n}{4} - 3 = 4$
3. $\frac{n}{3} + 1 = 13$
4. $4n - 5 = 47$
5. $\frac{n}{5} + 5 = 15$
6. $\frac{n}{3} - 4 = 2$
8. $2n + 5 = 29$
9. $\frac{n}{3} - 9 = 5$
10. $6n - 4 = 182$



1		2		3
			4	
	5		6	
7				8
		9	10	
11				

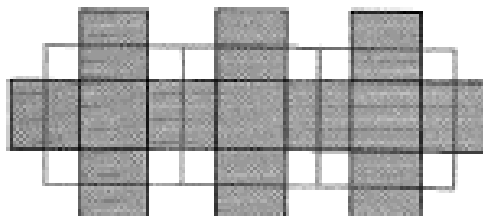
More Equations:

Solve the equations on a separate sheet. Then cut apart the small squares and match them up to the correct answer.

Equation Match

Cut the square into smaller squares. Put the pieces together again, making sure all sides touch equivalent equations.

$3x - 40$ $x = -40$ $x - (-4) = 36$	$-2x - 2 = 4$ $x = 29$ $x = 7$	$2x - 1 = 3$ $x = 6$ $x = -9$ $x = 4$	$2x - 6 = 8$ $x = 50$ $x = 23$ $x = 0$
$x = -1$ $-x = -10$ $x = 2$	$2x = -5$ $-12x = -6$ $x = 9$	$x = -2$ $3x = -27$ $5x = -2$ $3x + 1 = 4$	$x = 10$ $x = 30$ $x = 5$ $x = 13$
$-5x = -15$ $x - 4 = 1$ $x = 40$	$x = -12$ $\frac{x}{2} = 5$ $x - (-1) = 7$ $x = 3$	$x = 4$ $x = 10$ $x = 4$ $x = -3$	$x = 8$ $20x = -625$ $x + 9 = -8$ $2x = 90$
$x = 1$ $3x + 8 = -13$ $x = 11$	$-x + 1 = -8$ $x = -4$ $3x = 90$ $-3x = 6$	$x = 52$ $x = -5$ $x = -10$ $x = -3$	$x = 6$ $x = -17$ $5x = -20$ $3x - (-5) = 2$



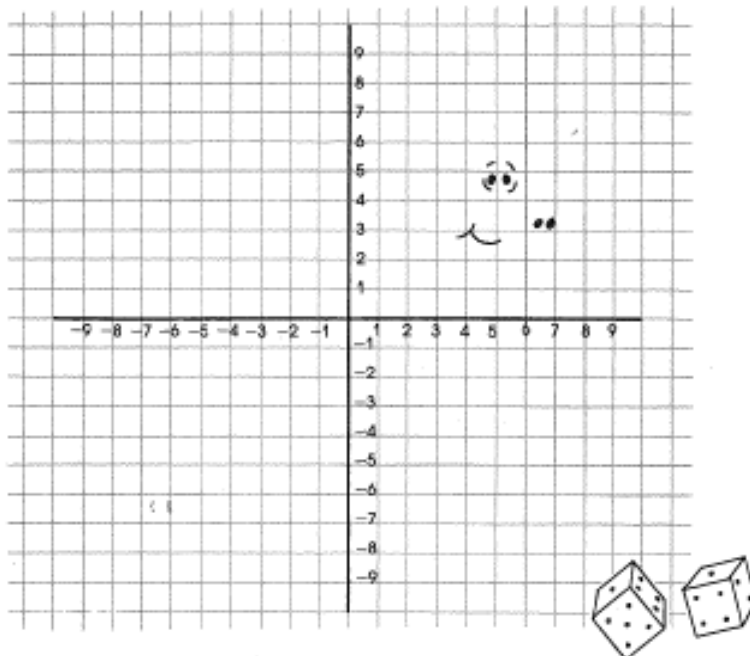
Part 4: Coordinate Graphing

Reminders: (x, y) The first number, x, tells you the number of spaces to move left or right. The second number, y, tells you how many spaces to move up or down.

Plotting Points

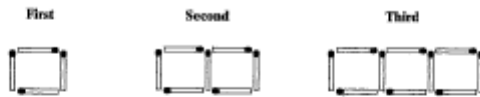
Graph the following ordered pairs and connect the points in order until you reach the word *Lift*. What you get is a probability dice game, described below.

Start	(-1, -4)	(7, 4)	(3, 8)	(10, -3)	(-5, -7.5)
(9, 6)	(0, -1)	(8, 4)	(1, 6)	(9, -3)	Lift
(3, 8)	(-2, 1)	(8, 3)	(4, 5)	(9, -4)	(7, -6)
(0, 7)	Lift	(6, 2)	Lift	(5, -1)	(6, -7)
(-7, 4)	(6, 7)	(5, 3)	(1, 3)	(5, -4)	Lift
(-9, -3)	(7, 5)	(6, 4)	(2, 1)	(8, -7)	(9, -2)
(1, -8)	(9, 6)	(7, 4)	(4, 1)	(7, -7)	(8, -3)
(1, -7)	Lift	Lift	Lift	(8, -8)	Lift
(2, -7)	(7, 5)	(4, 5)	(6, 2)	(2, -5)	



Geometric Patterns I

1. Squares can be made using matchsticks. The squares in this lesson will be made in a special way. This is shown below.



- a. Draw pictures of the next two arrays of squares.

- b. Complete the following table.

Number of Squares	Number of Matchsticks
1	
2	
3	
4	
5	
6	
10	
100	
n	

2. Triangles can be made using matchsticks. The triangles in this lesson will be made in a special way. This is shown below.



- a. Draw pictures of the next two arrays of triangles.

- b. Complete the following table.

Number of Triangles	Number of Matchsticks
1	
2	
3	
4	
5	
6	
10	
100	
n	