





Algebraic Expressions and Equations

- 9** What is the value of this equation when $b=-7$, $m=-4$, $y=7$

$$\frac{6b + 6y}{5m}$$

A	$-0b$	B	-374
C	1	D	374
E	$-3b$	F	0

- 10** Figure out the answer by using the correct order of operations

$$(21 + 3^2) \div 6 + 2 \times 4 = ?$$

A	10	B	1	C	3
D	13	E	12	F	16

- 11** Figure out the answer by using the correct order of operations

$$(9 + 1) \div 5 + 6 \times 7 = ?$$

A	44	B	5	C	14
D	51	E	1	F	45

- 12** Which answer is the same expression as this

$$42m^2 + 30m$$

A	$m^2(m + 5)$	B	$5(6m - m)$
C	$6(6m + m)$	D	$6(m - m)$
E	$6m(7m + 5)$		

- 13** Which table of values matches the function?

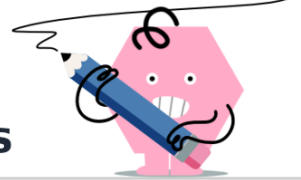
$$p(x) = x - 8$$

A

x	p(x)
-3	-14
-2	-12
0	-8
2	-4

B

x	p(x)
-3	-11
-2	-10
0	-8
2	-6



Algebraic Expressions and Equations

- 14** What chart of X, Y values matches this equation?

$$y = 2x + 2$$

A

X	Y
0	2
1	4
2	6
3	8
4	10

B

X	Y
0	2
1	0
2	-2
3	-4
4	-6

- 15** Which value satisfies this inequality?

$$X \leq 2$$

A

-2

B

3

C

5

D

6

- 16** What is the coefficient of the x term in this polynomial?

$$8x^2 + 4x - 5$$

A

0

B

4

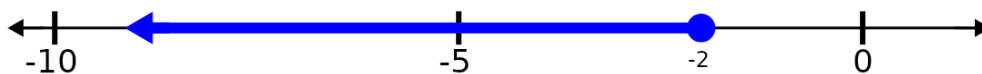
C

6

D

-4

- 17** Which value satisfies the inequality shown on this number line?



A

-1

B

1

C

-9

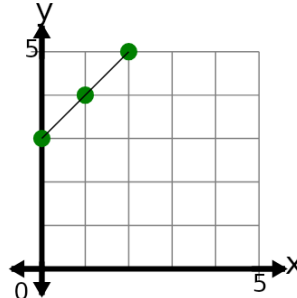
D

2

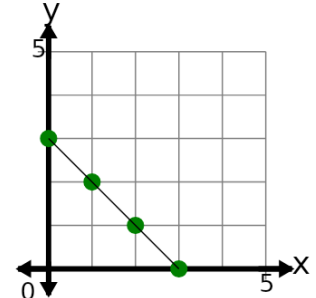
- 18** What graph matches this chart of X, Y values?

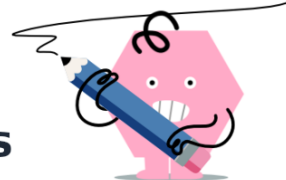
X	Y
0	3
1	2
2	1
3	0

A



B





Algebraic Expressions and Equations

19 Which number line shows this inequality?

$$X \leq 3$$

A



B



C



D



20 What is the constant term of this polynomial?

$$9x^3 - 4x^2 + 7x$$

A

0

B

-1

C

-4

D

-2

21 What is points called in this trend?

As age increases, points tends to increase

A

Dependent Variable

B

Independent Variable

22 Which answer is the same expression as this

$$d(6 - b)$$

A

$$6d + db$$

B

$$6d - db$$

C

$$d^2 + 6d$$

D

$$db - 6$$

E

$$6b - 6d$$

F

$$db + 6$$

23 Find the expression that best represents this sentence

Nine times x

A

$$\frac{x}{9}$$

B

$$9 - x$$

C

$$9x$$

D

$$x + 9$$



Algebraic Expressions and Equations

24 Does $X = -7$ satisfy this inequality?

$$-4 < X$$

A

No

B

Yes

25 What line equation would create this set of X, Y values?

X	Y
0	4
1	8
2	12
3	16

A

$$y = -4x$$

B

$$y = \frac{4}{2}x$$

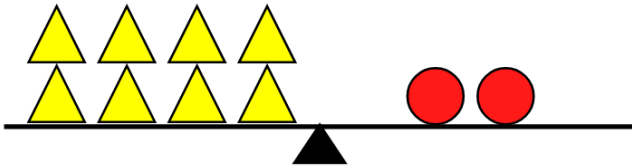
C

$$y = \frac{1}{4}x$$

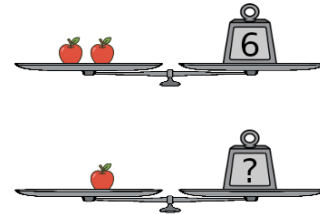
D

$$y = 4x$$

26 Which equations represent what these balance beams are showing



27 Which equations represent what these scales are showing



28 Solve the one-step equation for x.

$$x + 8 = 9$$

A

$$x = 3$$

B

$$x = 2$$

C

$$x = 0$$

D

$$x = 1$$

29 What number can be put in the circle to make this equation correct?

$$\frac{\bigcirc}{9} = 2$$

A

$$\bigcirc = 15$$

B

$$\bigcirc = 18$$

C

$$\bigcirc = 16$$

D

$$\bigcirc = 20$$

E

$$\bigcirc = 17$$

F

$$\bigcirc = 19$$

30 Solve for the variable in the equation

$$3y = 15 - 2y$$

A

$$y = 4$$

B

$$y = 2$$

C

$$y = 0$$

D

$$y = 3$$

E

$$y = 6$$

F

$$y = 1$$

31 Solve the one-step equation for x.

$$6x = 24$$

A

$$x = 3$$

B

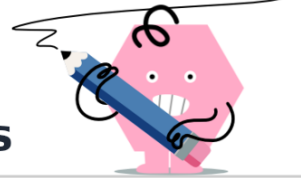
$$x = 5$$

C

$$x = 6$$

D

$$x = 4$$



Algebraic Expressions and Equations

32 Which equations represent what these meals cost

$$1 \text{ bowl} + 4 \text{ donuts} = 22$$

$$8 \text{ bowls} = 16$$

$$1 \text{ donut} = ?$$

33 Solve the one-step equation for x.

$$x - 7 = 2$$

A

$$x = 11$$

B

$$x = 8$$

C

$$x = 9$$

D

$$x = 10$$

34 Find the expression that best represents this sentence

Eleven less than seven times y

A $7y - 11$

B $7y + 11$

C $7(y - 11)$

D $11y - 7$

E $7y \times 11$

35 Find the equation that best represents this sentence

The length is nine times the width decreased by eight times the height.

A $l = 9w + 8h$

B $l = 9w - 8h$

C $l = 9w \times 8h$

D $l = 8w - 9h$

36 What rule turns each input into its output?

Input	Output
6	9
7	10
9	12
10	13
15	18

A

add 3

B

divide by 5

C

add 5

D

add 8



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37 Which answer is the same expression as this

$$5x - 45$$

A

$$(x^5 + 45)$$

B

$$5(x - 9)$$

38 Solve the two-step inequality for x.

$$1 - 5x > -29$$

A

$$x < 6$$

B

$$x \leq 6$$

C

$$x < 7$$

D

$$x > 6$$

39 Find the expanded form of this number raised to its exponent

$$2^4$$

A

$$2 \times 2 \times 2$$

B

$$4 \times 4$$

C

$$2 \times 2 \times 2 \times 2 \times 2 \times 2$$

D

$$2 \times 2$$

E

$$2 \times 2 \times 2 \times 2 \times 2$$

F

$$2 \times 2 \times 2 \times 2$$

40 Find the right equation to represent this problem:

A group of 5 kids each have a bag containing 4 pieces of candy. Each candy weighs 4 grams. How many pieces of candy in total?

A

$$4/5$$

B

$$4 \times 4$$

C

$$4 \times 4$$

D

$$5 + 4$$

E

$$5 \times 4$$