

Local Union 3

International Brotherhood of Electrical Workers

Aptitude Test Prep

Quiz



## Order of Operations

*Plug in the numbers, and simplify*

$$\frac{x(y-z)^2}{z} + \frac{y}{x-z}$$

**1.**  $x = 4 \ y = 5 \ z = -1$

**2.**  $x = 2 \ y = 3 \ z = 1$

$$\frac{a}{b+c} - \frac{b(c+d)}{b-c}$$

**3.**  $a = -5 \ b = -3 \ c = -2 \ d = 5$

**4.**  $a = 5 \ b = 2 \ c = -1 \ d = 1$

**5.**  $a = -3 \ b = -2 \ c = -1 \ d = 5$

$$\frac{4(a-b)^2}{(a-c)} + \frac{3(a+c)^2}{d}$$

**6.**  $a = -3 \ b = 4 \ c = -1 \ d = -2$

**7.**  $a = -5 \ b = -1 \ c = -1 \ d = 2$

# Order of Operations

*Plug in the numbers, and simplify*

$$\frac{5a + 6b}{3c - d}$$

**8.**  $a = 1$   $b = 4$   $c = -1$   $d = -4$

**9.**  $a = 2$   $b = -3$   $c = 1$   $d = 4$

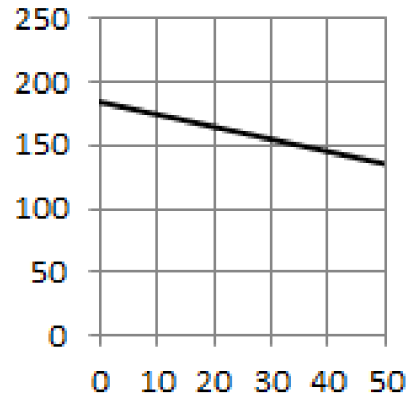
**10.**  $a = 2$   $b = 1$   $c = 2$   $d = 5$

	A	B	C	D
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Linear Equations

Match the Identical Expressions

1.



A. one hundred sixty more than a number

B.  $y = -2x + 160$

C.

x	y
0	121
5	111
10	101
15	91
20	81
25	71
30	61

D. one hundred eighty five more than the opposite of a number

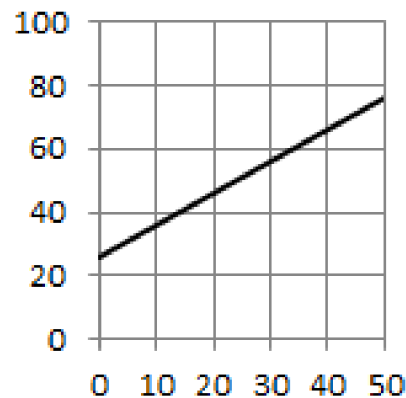
2.

x	y
0	26
5	31
10	36
15	41
20	46
25	51
30	56
35	61

A. Twenty six more than twice a number

B.  $y = -x + 26$

C. Twenty six less than a number



3.

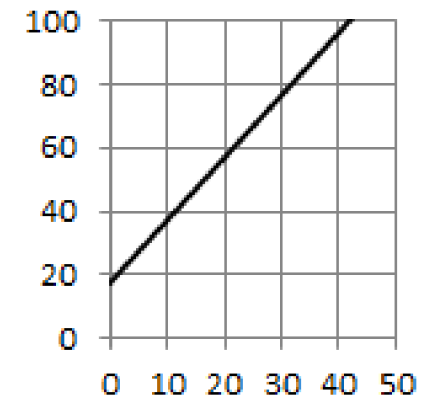
$y = 2x + 17$

A.

x	y
0	17
5	20
10	25
15	32
20	35
25	40
30	48

B. Seventeen more than the opposite of a number

C.



D. Seventeen more than twice the opposite of a number

# Linear Equations

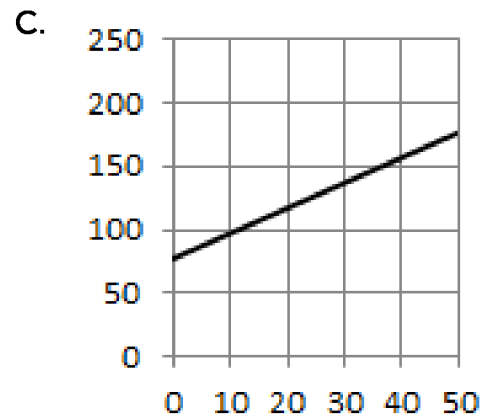
## Match the Identical Expressions

4. One hundred twenty one more than twice the opposite of a number

A.

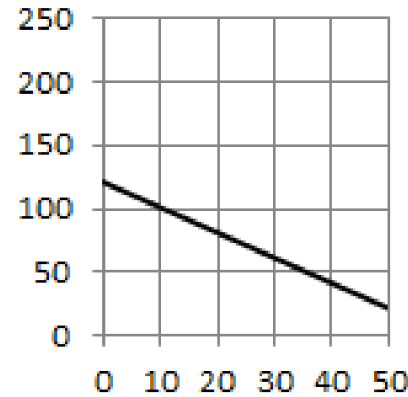
x	y
0	121
5	111
10	101
15	91
20	81
25	71
30	61

B.  $y = 2x + 121$



D.  $y = -2x + 121$

5.



A.  $y = 2x + 120$

B.

x	y
0	185
5	180
10	175
15	170
20	165
25	160
30	155

C.  $y = -x + 121$

D. One hundred twenty one more than twice the opposite of a number

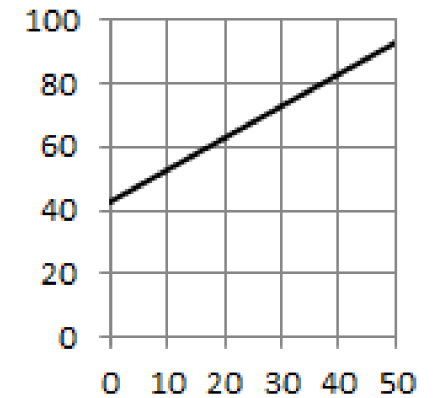
6. Forty three more than a number

A.  $y = 3x + 43$

B.

x	y
0	43
5	54
10	63
15	73
20	83
25	93
30	103

C.



D.

x	y
0	26
5	31
10	36
15	41
20	46
25	51
30	56

# Inverse Functions

Isolate  $x$ , in terms of  $y$

*circle the correct change*

1.  $y = -\frac{5}{\sqrt{2x+1}} + 10$

If  $x$  increases,  
 $y$  will increase / decrease

2.  $y = \frac{3}{4(x+3)^2} - 15$

If  $x$  decreases,  
 $x$  will increase / decrease

3.  $y = 12 - 3\sqrt{2x+5}$

If  $x$  decreases,  
 $y$  will increase / decrease

4.  $y = 2 - \frac{(x-3)^2}{8}$

If  $x$  increases,  
 $y$  will increase / decrease

5.  $y = \frac{2}{\sqrt{3x+1}} - 10$

If  $x$  decreases,  
 $y$  will increase / decrease