

Name

Key

Date

Period

### One-Step Equations Study Guide - Math 6/7

Find the value of each expression. Circle your answer.

1)  $(+16 - 2) + 7$

$8 + 7$

$(15)$

3)  $(30 - 2) + 2(6 - 5)$

$(28) + (12 - 10)$

$28 + (2)$

$(30)$

5)  $3[7 + (4^2 + 15) + 3]$

$3[7 + (16 + 15) + 3]$

$3[7 + (31) + 3]$

$3[41]$

$123$

2)  $9^2 - (7^2 + 3)$

$81 - (49 + 3)$

$81 - (52)$

$(29)$

4)  $+8(15 - 3) + 4(8 + 7)$

$(120 - 32) + (32 + 28)$

$(88) + (60)$

$(148)$

6)  $6(4 + 11) - 3(8 - 3)$

$6(15) - (24 - 9)$

$90 - 15$

$(75)$

Evaluate each expression if  $n = 8$ ,  $m = 3$ , and  $p = 15$ . Circle your answer.

7)  $23 + m^2$

$23 + 3^2$

$23 + 9$

$(32)$

9)  $8n + (3p - 5m)$

$8(8) + (3(15) - 5(3))$

$64 + (45 - 15)$

$64 + 30 = (94)$

11)  $m^2 + 2p - 3n$

8)  $3n + 9m$

$3(8) + 9(3)$

$24 + 27 = (51)$

10)  $\frac{np}{+10m}$

$\frac{(8)(15)}{10(3)} = \frac{120 - 10}{150 - 10}$

$(\frac{12}{13})$

Evaluate each phrase into an algebraic expression. Do not solve.

12) seven more than  $p$

$$p + 7$$

14) the product of  $n$  and 7

$$7n$$

16) three times the sum of  $x$  and 2

$$3(x+2)$$

13) five more than six times a number

$$6x + 5$$

15) the quotient of  $y$  and fourteen

$$y = 14 \text{ or } \frac{y}{14}$$

Solve each equation and check your solution. Show all work.

$$\textcircled{17} \begin{array}{r} a + 7 = 8 \\ -7 \quad -7 \end{array}$$

$$\textcircled{a = 1}$$

$$\textcircled{18} \begin{array}{r} +27 = c + 27 \\ -27 \quad -27 \end{array}$$

$$c = 0$$

$$\textcircled{19} \begin{array}{r} z + 4.2 = 8.1 \\ -4.2 \quad -4.2 \end{array}$$

$$\textcircled{z = 3.9}$$

$$\textcircled{20} \begin{array}{r} 3.5 + n = 4.6 \\ +4.6 \quad +4.6 \end{array}$$

$$\frac{8.1}{8.1} = n$$

$$\textcircled{21} \begin{array}{r} +1\frac{1}{2} + n = +1\frac{7}{8} \\ -1\frac{1}{2} \quad -1\frac{7}{8} \end{array}$$

$$n = \frac{1}{8}$$

$$\textcircled{22} \begin{array}{r} a + -2\frac{1}{3} = +15\frac{1}{3} \\ +2\frac{1}{3} \quad +2\frac{1}{3} \end{array}$$

$$a = 17\frac{2}{3}$$

17) \_\_\_\_\_

18) \_\_\_\_\_

19) \_\_\_\_\_

20) \_\_\_\_\_

21) \_\_\_\_\_

22) \_\_\_\_\_



$$23) \frac{+14p}{71} = \frac{42}{71}$$

$$p = 3$$

$$24) 6x + 8 = 118 + 6$$

$$x = 100$$

$$25) \frac{0.25y}{.75} = \frac{1.5}{.25}$$

$$y = 6$$

$$26) \frac{+x}{3.1} = +16 + 5.1$$

$$x = 81.5$$

$$27) \frac{3x}{3} = \left(\frac{1}{2}\right) - 3$$

$$x = \frac{3}{2} - \frac{3}{1}$$

$$\frac{3}{2} - \frac{3}{1}$$

$$x = -\frac{1}{2}$$

$$28) \frac{1}{18}c = 431 \frac{1}{18}$$

$$c = \frac{31}{1} + \frac{18}{1} =$$

$$c = 558$$

23)	_____
24)	_____
25)	_____
26)	_____
27)	_____
28)	_____

Write an equation, solve and check your solution.

29) A number decreased by 12 is 435

$$x - 12 = 35$$

30) The product of 4 and a number is 125

$$4n = 125$$

31) Use the order of operations to find which expression is true.

P/E/O/A

False a)  $8 + 12(14 - 8) + 6 = 126$   
 $8 + 12(6) + 6$   
 $8 + 72 + 6 = 86$

c)  $14 + 6(7 - 4) - 8 = 30$

False  $14 + 6(3) - 8$   
 $14 + 18 - 8$   
 $32 - 8 = 24$

b)  $10 + 8 \cdot 6 - 7 = 51$

$10 + 48 - 7$  True

$58 - 7 = 51$

d)  $4 + 3(8 + 2) - 5 = 66$

$4 + 3(10) - 5$  False

$4 + 30 - 5$

$44 - 5$

$44$

32) What whole number when raised to the fourth power is 81?

a) 2

$2 \cdot 2 \cdot 2 \cdot 2$

$4 \cdot 4$

16

False

b) 3

$3 \cdot 3 \cdot 3 \cdot 3$

$9 \cdot 9$

81

True

c) 4

$4 \cdot 4 \cdot 4 \cdot 4$

$16 \cdot 16$

256

False

d) 9

$9 \cdot 9 \cdot 9 \cdot 9$

$81 \cdot 81$

6,561

False

33) The expression  $8h + 4$  shows the cost of doggie day care for  $h$  hours. What is the cost for 6 hours?

a) \$28

b) \$44

c) \$52

d) \$90

$8(6) + 4$

$48 + 4$

$52$

34) You can find the area of a rectangle by using the formula  $A = l \cdot w$ , where  $A$  is the area,  $l$  is the length and  $w$  is the width. What is the width of a rectangle that has an area of  $84\text{cm}^2$  and a length of  $7\text{cm}$ ?

$\frac{84\text{cm}^2}{7\text{cm}} = \frac{7 \cdot w}{7\text{cm}}$

$A = l \cdot w$

$l = 7\text{cm}$

$A = 84\text{cm}^2$

$12\text{cm} = w$