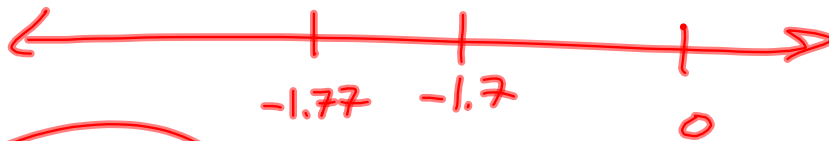


Steve Mills      Mat 099  
G12  
Tandy = Absent      Intermediate  
Algebra  
See website for Syllabus &  
Schedule.

Determine whether the statement is true or false.

1)  $-1.7 > -1.77$  True



2)  $-6^3 = (-6)^3$

True

$(-6)(+6)(+6)$

$-6^2 = (-6)^2 ?$

Heck no.

<http://www.harryzaims.com/test-1-chapter-01-v02b/index.htm>

3)  $-3 + 5 = -(-3 - 5)$

$+2 \stackrel{?}{=} -(-8) = 8$  Nope.

4)  $(7)(0)(-3) = \frac{0}{7}$

$0 = 0$

$\frac{7}{0}$  owie!

$\frac{10}{2} = 5$

5) All natural numbers are whole numbers. *Yes*

$$\mathbb{W} = \{0, 1, 2, 3, \dots\} \quad \mathbb{N} \subset \mathbb{W}$$

$$\mathbb{N} = \{1, 2, 3, \dots\}$$

$$\mathbb{Z} = \{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$$

6) All integers are natural numbers. *Yes*

**Simplify.**



7)  $7(5) - 9 \div 3$

$$35 - 3 = 32$$

$(35 - 9) \div 3$  is bad.  
Hierarchy / Order of operations

8)  $4^3 - (-12)^2$

$$64 - 144 = -80$$

P - Parentheses  
E - exponents  
M  
D  
A  
S

9)  $(2 - 6)^3 - |-2 - 4|^2$

$$(-4)^3 - |-6|^2$$

$$= -64 - 36 = -100$$

$$|x| = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$$

$$|3| = 3$$

$$|-3| = -(-3)$$

$$|-7| = -(-7) = 7$$

$$10) (8)(9) + \{9 \div [8 - (3 + 2)]\}$$

$$72 + \{9 \div [8 - (5)]\}$$

$$72 + \{9 \div [3]\}$$

$$72 + 3 = 75$$

Write Much  
Think Little

$$11) \frac{5^2 + (13 - 5)^2}{32 \div 4 - (6 + 1)} = \frac{25 + 8^2}{8 - 7} = \frac{25 + 64}{1} = \frac{89}{1} = 89$$

$$12) \frac{-4(8^2) - 8(9 - 4)}{-8(5 - 7) \div (-2)} = \frac{-4(64) - 8(5)}{-8(-2) \div (-2)} = \frac{-256 - 40}{16 \div (-2)} = \frac{-296}{-8}$$

2, 3, 5, 7, 11, 13, 17, 19

$$\frac{\cancel{(x+5)}(x-5)}{\cancel{x+5}} = x-5$$

$$\frac{-2 \cdot 2 \cdot 2 \cdot 37}{2 \cdot 2 \cdot 2} = -37$$

$$\begin{array}{r} 2 \overline{) 296} \\ \underline{2 \phantom{00}} \\ 74 \\ \underline{2 \phantom{00}} \\ 37 \end{array}$$

$$\begin{array}{r} 2 \overline{) 8} \\ \underline{2 \phantom{0}} \\ 2 \end{array}$$

$$\begin{array}{r} 37 \overline{) 296} \\ \underline{-(240)} \\ 56 \\ \underline{56} \\ 0 \end{array}$$

Evaluate the expression for the given replacement values.

13)  $s^4 + t^2$  when  $s = 4$  and  $t = 12$

$$4^4 + 12^2 = 256 + 144 = 400$$

14)  $\frac{y - 8x}{9x - xz}$  when  $x = -4$ ,  $y = 1$ , and  $z = -1$ .

Solve.

15) The algebraic expression  $7.75x$  represents the total cost for  $x$  adults to attend the theater.

a. Complete the table that follows.

$x$	1	3	10	20
$7.75x$	7.75	23.25	77.5	155

b. As the number of adults increases, does the total cost increase or decrease?

$\$7.75$  is the price of a ticket.

$$\begin{array}{r} 2 \times 7.75 \\ \underline{\phantom{00}3} \\ 23.25 \end{array}$$

$$\begin{array}{r} 12 \times 7.75 \\ \underline{\phantom{00}20} \\ 155.00 \end{array}$$

Write the statement using mathematical symbols.

16) 50 is equal to three plus the product of fifteen and  $x$

~~50 = 3 + 15x~~  

$$50 = 3 + \underline{15x}$$

17) Sixty is sixteen subtracted from the product of five and y  
~~five and y.~~

60 is the product of five and y minus 16.

$$60 = 5y - 16$$

18) The square of (the sum of x and nineteen) divided by five, is greater than -20.  $x^2 + 19^2$  is the sum of the squares.

$(x+19)^2$  is the square of the sum.

$$\frac{(x+19)^2}{5} > -20$$

19) The quotient of z and six, subtracted from the absolute value of -40 is not equal to eleven.

$$|-40| - \frac{z}{6} \neq 11$$

- 20) The opposite of  $n$  is six times the difference of eleven and  $n$ .

$$-n = 6(11 - n)$$

- 21) Negative three is equal to  $x$  divided by the difference of ten and  $x$ .

$$-3 = \frac{x}{10 - x}$$

Name the property illustrated by the statement.

22)  $-4(x + 5) = -4x - 20$  *Distributive*

23)  $20 \cdot (25 \cdot 18) = (20 \cdot 25) \cdot 18$  *Associative*

24)  $\frac{1}{2}(2) = 1$  *Multiplicative inverse.*  
*Multiplicative Identity.*

$$25) -10 + 0 = -10 \quad \underline{\text{Additive}} \quad \text{identity}$$

**Solve.**

- 26) Write an expression for the total cost (in dollars) of Sam's purchase if he buys  $x$  candies costing  $a$  cents each and  $y$  bars of chocolate costing \$2.25 each.

$$ax + 2.25y$$

$\frac{1 \text{ dollar}}{100 \text{ cents}} \cdot \frac{a \text{ cents}}{\text{candy}} \cdot x \text{ candies} + \frac{2.25 \text{ dollars}}{1 \text{ bar}} \cdot y \text{ bars}$   
 Dollars + Dollars.

**Simplify the expression.**

27)  $-7(5x - 9)$

28)  $\frac{2}{3}x + \frac{1}{3} + \frac{1}{6}x - \frac{3}{4}$



$$29) -2a - 5 - 12(a - 6)$$

$$30) (3.6y - 6.3) - (8.1y - 4.6)$$