

Intermediate Algebra 012
Quiz #1
Due April 6, 2014 11:00 pm ET

Name _____

Please remember you must attach your handwritten work to show me how you solved the problems, when applicable, to receive full credit. Be sure to write legibly. You should return the quiz with the correct answer indicated and your handwritten work on separate pages. Each problem is worth 5 points. Good luck!

Find the value of the algebraic expression at the given replacement value.

- 1) A plane flies at an average speed of 300 miles per hour. The expression $300t$ gives the distance traveled by the plane in t hours. Find the distance traveled by the plane in 8 hours. 1) _____
A) 240 mi B) 2400 mi C) 1100 mi D) 24,000 mi

- 2) The algebraic expression $\frac{1}{7}y$ gives the distance in miles that Jan runs when she does y laps of a park. How far does she run when she does 6 laps of the park? 2) _____
A) $\frac{5}{7}$ laps B) $\frac{7}{6}$ laps C) $6\frac{1}{7}$ laps D) $\frac{6}{7}$ laps

Place $\in$ or $\notin$ in the space provided to make the statement true.

- 3) 32 _____ $\{x \mid x \text{ is an integer}\}$ 3) _____
A) $\notin$ B) $\in$

Find the absolute value.

- 4) $-|15|$ 4) _____
A) 15 B) -15 C) -30 D) 0

Find the opposite of the number.

- 5) $\frac{2}{17}$ 5) _____
A) $\frac{2}{17}$ B) $-\frac{2}{17}$ C) $\frac{17}{2}$ D) $-\frac{17}{2}$

Write the phrase as a variable expression. Use x to represent "a number."

- 6) 71 less a number 6) _____
A) $71 - x$ B) $x + 71$ C) $71x$ D) 71

Add or subtract as indicated.

- 7) $-10 + 7$ 7) _____
A) -17 B) -3 C) 3 D) 17

Multiply or divide as indicated.

8) $-\frac{7}{8} \div 2$

A) $\frac{7}{16}$

B) $\frac{7}{4}$

C) $-\frac{7}{16}$

D) $-\frac{7}{4}$

8) _____

Simplify the expression.

9) $23 - [9 - (3 - 11)] + (2 - 4)^3$

A) 30

B) -2

C) -14

D) 14

9) _____

Write the sentence using mathematical symbols.

10) Seven times the sum of x and -98 equals -56 .

A) $7[x + (-98)] = -56$

C) $7x + (-98) = -56$

B) $7 + x + (-98) = -56$

D) $x + 7(-98) = -56$

10) _____

Use an associative property to write an equivalent expression.

11) $6r + (12s + 30)$

A) $(12s + 30) + 6r$

B) $(6r + 12s) + 30$

C) $6r + (30 + 12s)$

D) $6r + (12s + 30)$

11) _____

Write the following as an algebraic expression.

12) The cost of x books if each book costs \$27.70.

A) $\$ \left(\frac{27.70}{x} \right)$

B) $\$(27.70 - x)$

C) $\$27.70x$

D) $\$(27.70 + x)$

12) _____

Simplify the expression.

13) $8(3x^2 - 2) - 6(x^2 - 1)$

A) $18x^2 - 10$

B) $18x^2 - 22$

C) $18x^2 - 3$

D) $-24x^2 - 10$

13) _____

Solve the equation.

14) $4(3x + 4) - 48 = 6x - 2$

A) 30

B) -5

C) 5

D) 180

14) _____

15) $2x + 1.1 = -6.5$

A) -1.4

B) -1.7

C) -5.6

D) -3.8

15) _____

Solve.

16) Five times some number added to 8 amounts to 10 added to the product of 3 and the number.

A) -1

B) -2

C) 2

D) 1

16) _____

17) The cost C to produce x number of tennis rackets is $C = 130 + 15x$. The tennis rackets are sold wholesale for \$20 each, so revenue R is given by $R = 20x$. Find how many tennis rackets the manufacturer needs to produce and sell to break even.

A) 13 tennis rackets

B) 21 tennis rackets

C) 31 tennis rackets

D) 26 tennis rackets

17) _____

Solve the formula for the specified variable.

18) $d = rt$ for r

A) $r = dt$

B) $r = d - t$

C) $r = \frac{d}{t}$

D) $r = \frac{t}{d}$

18) _____

Solve.

19) Use the formula $C = \frac{5}{9}(F - 32)$ to write 176°F as degrees Celsius.

A) 115.6°C

B) 65.8°C

C) 348.8°C

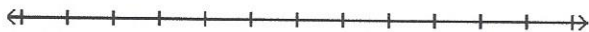
D) 80°C

19) _____

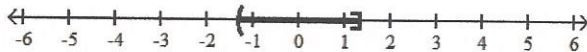
Solve the compound inequality. Graph the solution set.

20) $0 \leq \frac{3x + 4}{2} < 4$

20) _____



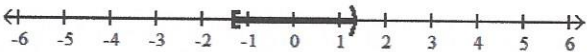
A) $\left[-\frac{4}{3}, \frac{4}{3}\right]$



B) $\left[-\frac{4}{3}, \frac{4}{3}\right)$



C) $\left[-\frac{4}{3}, \frac{4}{3}\right)$



D) $\left[-\frac{4}{3}, \frac{4}{3}\right]$

