

Name _____ Section _____ Date _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Decide whether the statement is always true, sometimes true, or never true.

- 1) The difference between a positive number and a negative number is 0. 1) _____
A) Sometimes true B) Never true C) Always true

SHORT ANSWER. Write the solution or phrase that best completes each statement or answers the question.

Simplify the expression.

2) $2p - 5(4p - 5) - 5(2p + 6) + 6(3p - 6)$ 2) _____

Solve the inequality. Give the solution set in both interval and graph forms.

3) $14x - 16 > 2(6x - 15)$ 3) _____



Solve the equation.

4) $-2x + 7(-2x - 5) = -45 - 6x$ 4) _____

5) $\frac{-3x + 7}{2} + 4 = -\frac{7x}{6}$ 5) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Decide whether the equation is conditional, an identity, or a contradiction. Give the solution set.

6) $5x + 8(x + 1) + 3 = 11 - 5x$

6) _____

A) Identity; {all real numbers}

B) Contradiction; \emptyset

C) Conditional; {0}

D) Conditional; {1}

SHORT ANSWER. Write the solution or phrase that best completes each statement or answers the question.

Solve the formula for the specified variable.

7) $A = P(1 + nr)$ for r

7) _____

Solve the problem.

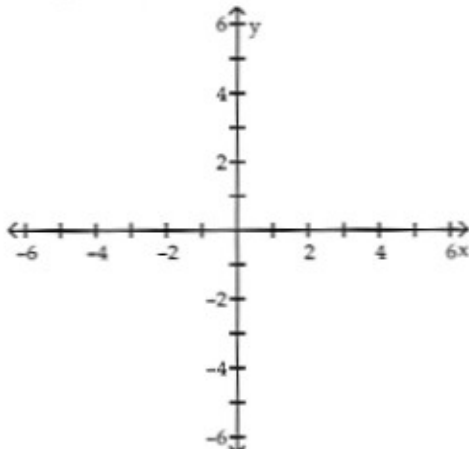
- 8) Company A rents copiers for a monthly charge of \$120 plus 8 cents per copy. Company B rents copiers for a monthly charge of \$240 plus 4 cents per copy. What is the number of copies above which Company A's charges are the higher of the two?

8) _____

Graph the compound inequality.

9) $2x - y > 4$ and $x \leq 4$

9)

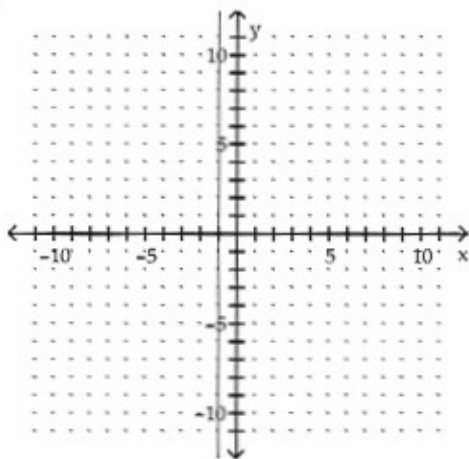


MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the slope of the line.

10)

10)



A) Undefined

B) 0

C) $\frac{3}{2}$

D) -1

SHORT ANSWER. Write the solution or phrase that best completes each statement or answers the question.

Find an equation of the line passing through the two points. Write the equation in standard form.

11) (4, -5) and (-9, 3)

11) _____

Find an equation of the line satisfying the conditions. Write the equation in slope-intercept form.

12) Through (-3, 8); perpendicular to $-3x + 4y = -23$

12) _____

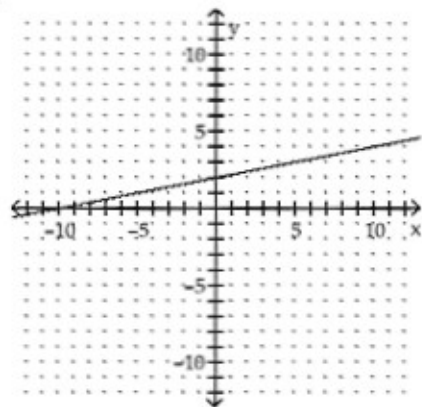
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Graph the line described.

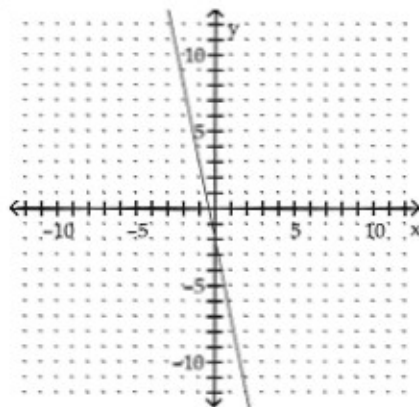
13) Through $(0, 2)$; $m = -2$

13)

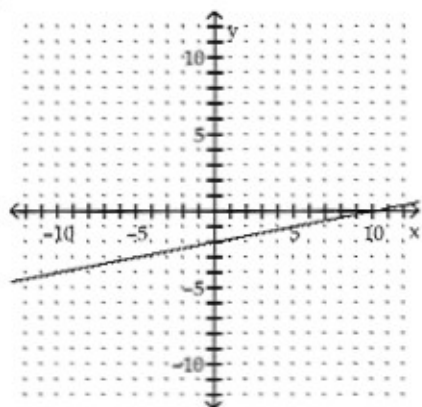
A)



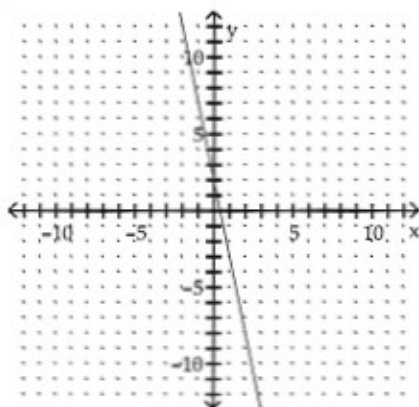
B)



C)



D)



SHORT ANSWER. Write the solution or phrase that best completes each statement or answers the question.

Solve the system.

$$\begin{aligned} 14) \quad &9y - 9 = -x \\ &5x - 7y = -7 \end{aligned}$$

14) _____

Solve the problem.

- 15) A sum of money amounting to \$4.10 consists of dimes and quarters. If there are 20 coins in all, how many are quarters? 15) _____

For the polynomial function, find the requested value.

- 16) $f(x) = 2x^2 - 10x + 7$; $f(4)$ 16) _____

Divide.

- 17) $\frac{9x^3 - 9x^2 - 10x + 4}{3x - 1}$ 17) _____

Simplify the expression so that no negative exponents appear in the final result. Assume all variables represent nonzero numbers.

- 18) $\frac{(3x^3y^6)^4}{9xy^2}$ 18) _____

Find the product.

- 19) $(2x^2 - 5x - 3)(x^2 + 4x - 2)$ 19) _____

20) $(3x - 2)(x + 9)$

20) _____

21) $(9m + 11)^2$

21) _____

Add or subtract as indicated.

22) $(-6x^3 + 9x^2 + 4) - (-5x^3 + 2x - 5)$

22) _____

Factor the trinomial completely.

23) $20z^2 + 7z - 6$

23) _____

24) $8x^2 - 24xy - 32y^2$

24) _____

Factor by grouping.

25) $x^3 - 2x^2 + 9x - 18$

25) _____

Factor the polynomial completely.

26) $x^3 - 8$

26) _____

27) $25y^4 - 64$

27) _____

Solve the equation.

28) $1 + \frac{1}{x} = \frac{12}{x^2}$

28) _____

Perform the indicated operation and express in lowest terms.

29) $\frac{3x + 28}{x^2 - 2x - 24} - \frac{x + 20}{x^2 - 2x - 24}$

29) _____

Rationalize the denominator. Assume that all variables represent positive real numbers.

30) $\frac{6}{\sqrt{11}}$

30) _____

Simplify. Assume that all variables represent positive real numbers.

31) $7\sqrt{3} + 5\sqrt{75}$

31) _____

Solve this equation.

32) $\sqrt{x+3} = x-3$

32) _____

Use the rules of exponents to simplify the expression. Write the answer with positive exponents. Assume that all variables represent positive real numbers.

33) $\frac{x^{1/2} \cdot x^{3/10} \cdot x^{2/5}}{(x^2)^{-1/2}}$

33) _____

Use the square root property to solve the equation.

34) $2z^2 - 162 = 0$

34) _____

Notice

As stated in the University of Southern Indiana Bulletin, a "C" or better in Math 100 is required as a prerequisite to subsequent courses in mathematics. If you are currently pre-registered for Math 104, Math 108, Math 111, Math 112, or Math 118 and do not receive a course grade of "C" or better, you must withdraw from that class and re-enroll in Math 100. We remind you of this policy so that you may adjust your schedule as soon as grades are distributed and before all sections of Math 100 are closed. If adjustments are not made to your schedule prior to the first day of class, you will be reminded of this policy and instructed to withdraw.

For assistance with schedule adjustment, please contact the Office of the Registrar at (812) 464-1762.