Name_____

math0410   Exam #4   04041700aafm041024350m

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

Solve the equation.

1) $x + 3 = 7$ 1) _____
   A) 4   B) –4   C) –10   D) 10
   Objective: (3.2) Use the Addition Property or the Multiplication Property to Solve Equations

2) $9x + 4x = 78$ 2) _____
   A) 6   B) –6   C) $\frac{78}{5}$ D) $-\frac{78}{5}$
   Objective: (3.2) Use the Addition Property or the Multiplication Property to Solve Equations

3) $4(8x - 4) = 33x$ 3) _____
   A) –16   B) 16   C) –4   D) 4
   Objective: (3.2) Use the Addition Property or the Multiplication Property to Solve Equations

4) $5x + 4 = 49$ 4) _____
   A) 9   B) 40   C) 44   D) 5
   Objective: (3.2) Use Both Properties to Solve Equations

5) $9n - 4 = 59$ 5) _____
   A) 7   B) 54   C) 58   D) 10
   Objective: (3.2) Use Both Properties to Solve Equations

6) $-14 = 8x - 6$ 6) _____
   A) –1   B) –16   C) –12   D) 4
   Objective: (3.2) Use Both Properties to Solve Equations

7) $7(8x - 4) = 60x$ 7) _____
   A) –7   B) 7   C) –1   D) 1
   Objective: (3.2) Use Both Properties to Solve Equations

8) $2(5x - 2) = 8x$ 8) _____
   A) 2   B) –2   C) –1   D) 1
   Objective: (3.2) Use Both Properties to Solve Equations
   m50–5

9) $5(y - 4) = 7y - 20$ 9) _____
   A) 0   B) –20   C) 20   D) –40
   Objective: (3.2) Use Both Properties to Solve Equations

10) $1.1x + 4.3 = 0.7x + 1.14$

    A) –7.9   B) –7.8   C) 0.127   D) –7.11

10) _____

11) $\dfrac{5}{6}x + \dfrac{4}{3} = \dfrac{2}{3}x$

    A) –8   B) 8   C) –12   D) 12

11) _____

12) $9x + 5 - 9x - 5 = 6x - 6x - 3$

    A) 0   B) –288

    C) all real numbers   D) no solution

12) _____

13) $2(x + 5) = (2x + 10)$

    A) 20   B) 0

    C) all real numbers   D) no solution

13) _____

Solve the equation for the indicated variable.

14) $A = P + PRT$ for T

    A) $T = \dfrac{A - P}{PR}$ B) $T = \dfrac{P - A}{PR}$ C) $T = \dfrac{A}{R}$ D) $T = \dfrac{PR}{A - P}$

14) _____

Solve the inequality. Graph the solution set and write it in interval notation.
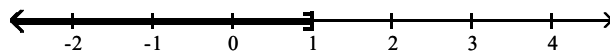
15) $21x + 9 > 3(6x + 4)$

15) _____

    A) $(1, \infty)$

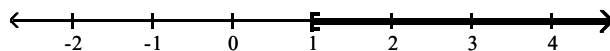   B) $(-\infty, 1)$

    C) $(-\infty, 1]$

    D) $[1, \infty)$
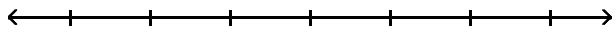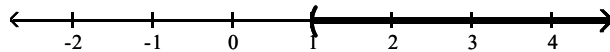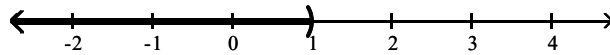
Determine whether the ordered pair is a solution of the given linear equation.

16) $-2y + 3x = -15$; (5, 0)

    A) no   B) yes
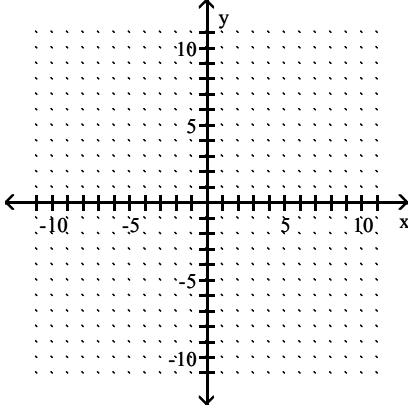
16) _____

Find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

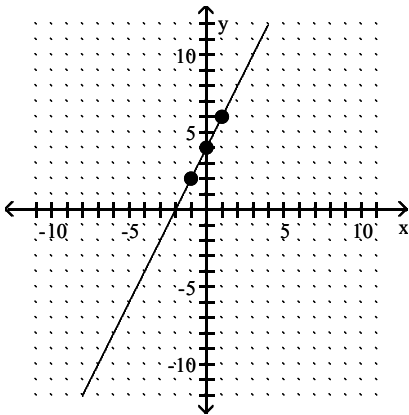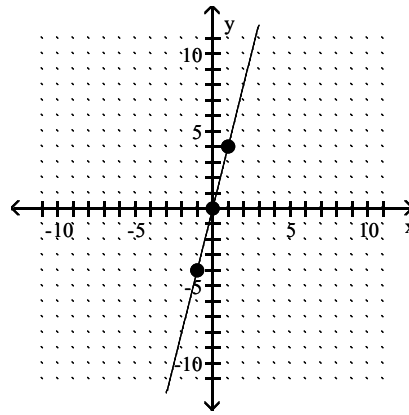17) $y = 2x + 4$ 17) _____
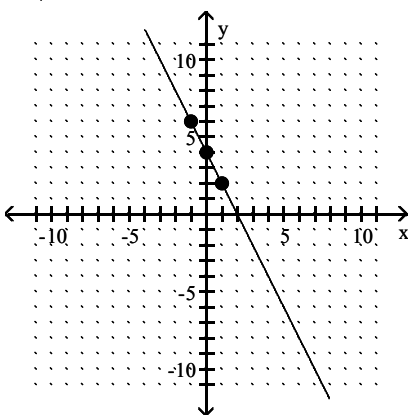
x	y
0	
1	
−1	

A)

x	y
0	4
1	6
−1	2

B)

x	y
0	0
1	4
−1	−4

C)

x	y
0	4
1	2
−1	6

D)

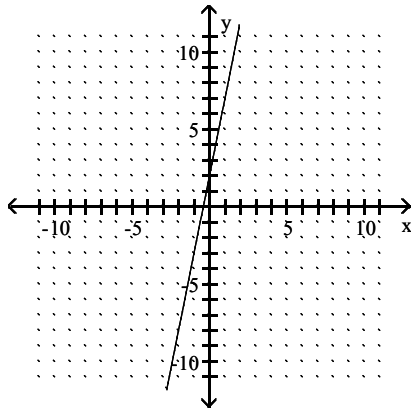| x	y
0	−4
1	−2
−1	−6
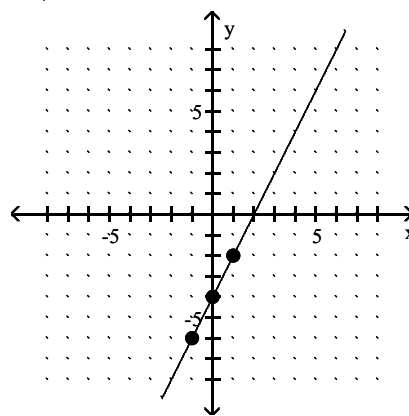
3

Graph the linear equation.

18) $5y - 25x = 10$

18) _____
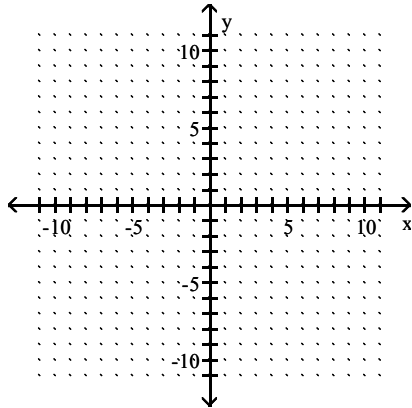
A)

B)

C)
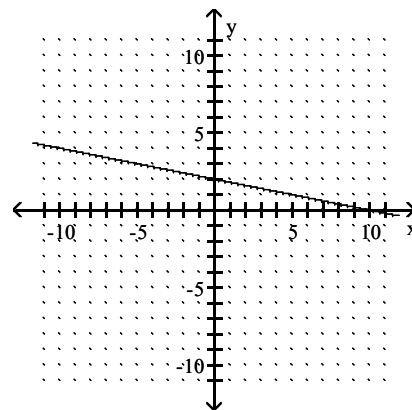

D)

Find the slope of the line that passes through the given points.

19) (8, 5) and (6, 9)

19) _____

A) – 2   B) $-\dfrac{1}{2}$ C) 1   D) 2

Find an equation of the line described. Write the equation in slope –intercept form if possible.

20) Slope 2, through (5, 2)

A) $y = 2x - 8$ B) $y = 2x + 8$ C) $x = 2y - 8$ D) $x = 2y + 8$

20) _____

Evaluate the function.

21) Find $f(4)$ when $f(x) = x^2 + 4x - 3$.

A) 29   B) 35   C) 3   D) –3

21) _____

Solve the system of equations by the addition method.

22) $\begin{cases} -2x + 3y = 2 \\ -3x + 5y = 2 \end{cases}$

A) $(-4, -2)$ B) $(-2, -4)$
C) infinite number of solutions   D) no solution

22) _____

23) $\begin{cases} x + y = 7 \\ x + y = 4 \end{cases}$

A) no solution   B) (0, 0)   C) (7, 4)   D) (0, 11)

23) _____

24) $\begin{cases} -2x + 2y = -5 \\ 6x - 6y = 15 \end{cases}$

A) infinite number of solutions   B) (0, 0)
C) (–2, 2)   D) no solution

24) _____

Multiply vertically.

25) $(6x - 1)(x^2 - 4x + 1)$

A) $6x^3 - 23x^2 + 2x - 1$ B) $6x^3 - 25x^2 + 10x - 1$
C) $6x^3 - 24x^2 + 6x + 1$ D) $6x^3 + 25x^2 - 10x + 1$

25) _____

Multiply.

26) $(3a - 7)^2$

A) $9a^2 - 42a + 49$ B) $9a^2 + 49$ C) $3a^2 - 42a + 49$ D) $3a^2 + 49$

26) _____

27) $(x + 11)(x - 11)$

A) $x^2 - 121$ B) $x^2 - 22$ C) $x^2 - 22x - 121$ D) $x^2 + 22x - 121$

27) _____

Simplify the expression. Write the result using positive exponents only.

28) $\dfrac{2^{-7}x^{-5}y^3}{2^{-4}x^{-8}y^6}$

28) _____

    A) $\dfrac{x^3}{8y^3}$ B) $\dfrac{1}{8x^8y^3}$ C) $\dfrac{3x^3}{y^3}$ D) $\dfrac{8}{x^3y^3}$

Find the quotient using long division.

29) $\dfrac{x^2 + 9x + 6}{x + 2}$

29) _____

    A) $x + 7 - \dfrac{8}{x + 2}$ B) $x + 7 + \dfrac{8}{x + 2}$ C) $\dfrac{x + 7}{x + 2}$ D) $x + 8$

Factor out the GCF from the polynomial.

30) $20x^4y + 36xy^3$

30) _____

    A) $4x(5x^3y + 9y^3)$ B) $4y(5x^4 + 9xy^2)$ C) $4xy(5x^3 + 9y^2)$ D) $xy(20x^3 + 36y^2)$

Factor the four–term polynomial by grouping.

31) $3xy - 9x + 7y - 21$

31) _____

    A) $(3x + 7)(y - 3)$ B) $(3x - 3)(y + 7)$ C) $(3x + 7y)(y - 3)$ D) $(3x + y)(7y - 3)$

Factor the trinomial completely. If the polynomial cannot be factored, write "prime."

32) $x^2 - x - 42$

32) _____

    A) $(x + 7)(x - 6)$ B) prime   C) $(x + 6)(x - 7)$ D) $(x + 1)(x - 42)$

Factor the binomial completely.

33) $z^2 - 121$

33) _____

    A) prime   B) $(z - 11)^2$ C) $(z + 11)(z - 11)$ D) $(z + 11)^2$

1) A
2) A
3) A
4) A
5) A
6) A
7) A
8) A
9) A
10) A
11) A
12) D
13) C
14) A
15) A
16) A
17) A
18) A
19) A
20) A
21) A
22) A
23) A
24) A
25) B
26) A
27) A
28) A
29) A
30) C
31) A
32) C
33) C