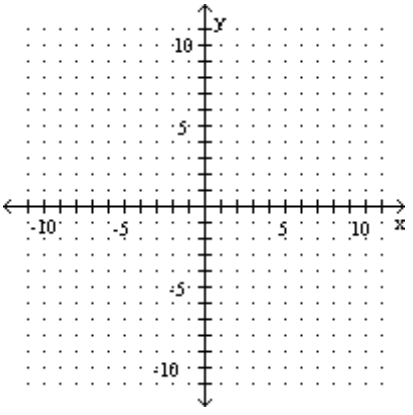
Exam

Name_____

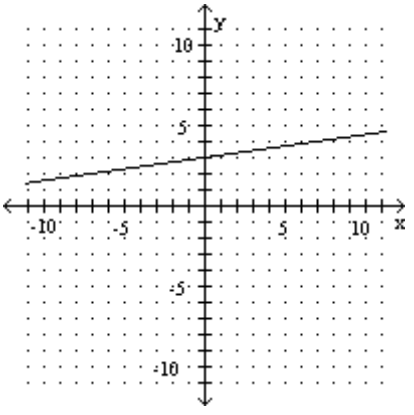
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Graph the function.

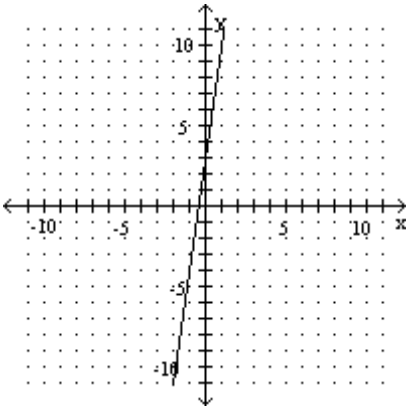
1) f(x) = - 7x + 3 1) _____



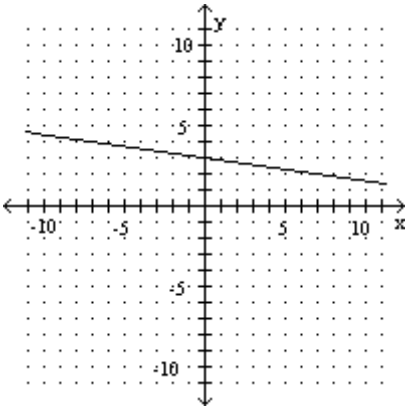
A)



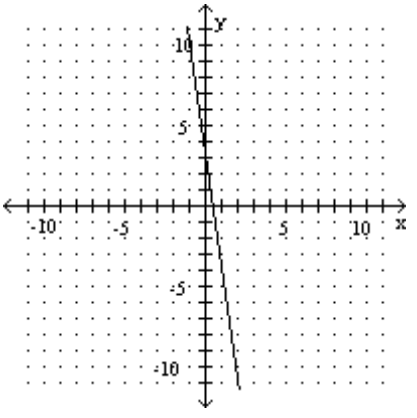
B)



C)



D)



Simplify the expression.

2) $\frac{|10(-2)| - |1 - 2|}{-54}$ 2) _____

A) $\frac{19}{54}$ B) $\frac{7}{18}$ C) $-\frac{19}{54}$ D) $-\frac{7}{18}$

Solve the equation.

3) $\frac{x + 8}{2} + \frac{x - 2}{5} = \frac{43}{10}$ 3) _____

A) 43 B) $\frac{37}{2}$ C) 0 D) 1

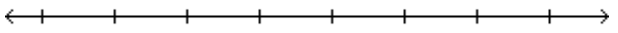
Write the solution set using interval notation.

4) $11(3x + 1) > 11$ 4) _____

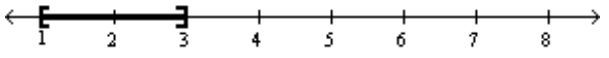
A) $[0, \infty)$ B) $(0, \infty)$ C) $[\frac{1}{33}, \infty)$ D) $(\frac{1}{33}, \infty)$

Solve the compound inequality. Graph the solution set.

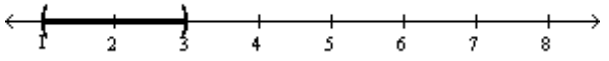
5) $6x - 4 < 2x$ or $-3x \leq -9$ 5) _____



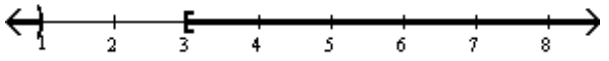
A) $[1, 3]$



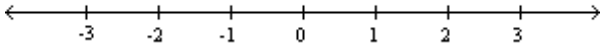
B) $(1, 3)$



C) $(-\infty, 1) \cup [3, \infty)$



D) $\emptyset$



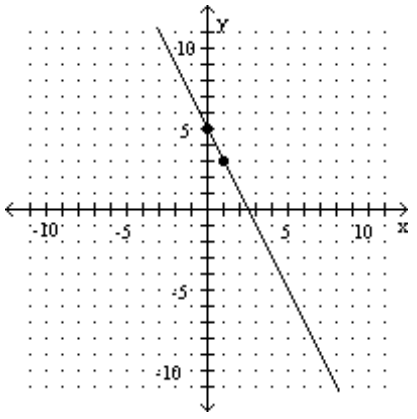
Solve the absolute value equation.

6) $|5x + 4| + 10 = 8$ 6) _____

A) $-\frac{1}{2}, -\frac{3}{2}$ B) $-\frac{2}{5}, -\frac{6}{5}$ C) $\frac{2}{5}, \frac{6}{5}$ D) $\emptyset$

Write an equation in standard form for the line graphed.

7) 7) _____



A) 5x - y = 2 B) 2x - y = 5 C) 2x + y = 5 D) 5x + y = -2

Solve the system of equations by the substitution method.

8) 8) _____

$$\begin{cases} x - 5y = 5 \\ -5x - 4y = -25 \end{cases}$$

A) (-5, -1) B) (6, 5) C) (5, 0) D) ∅

Solve the system.

9) 9) _____

$$\begin{cases} x + y + z = -1 \\ x - y + 3z = 1 \\ 5x + y + z = 15 \end{cases}$$

A) (-2, 4, -3) B) (-2, -3, 4) C) (4, -3, -2) D) ∅

Simplify. Write the answer with positive exponents.

10) $\dfrac{x^{-11}y^{8}}{x^{-5}y^{-2}}$ 10) _____

A) $x^{6}y^{10}$ B) $\dfrac{y^{10}}{x^{6}}$ C) $\dfrac{x^{6}}{y^{6}}$ D) $\dfrac{1}{x^{6}y^{6}}$

Factor the polynomial completely.

11) $xy + 11x - 7y - 77$ 11) _____

A) (x + 11)(y - 7) B) (y - 11)(x + 7) C) (x - 11)(y + 7) D) (y + 11)(x - 7)

12) $3x^{2} + 11x - 4$ 12) _____

A) (3x + 1)(x - 4) B) (3x - 4)(x + 1) C) (3x + 4)(x - 1) D) (3x - 1)(x + 4)

Multiply or divide as indicated. Simplify completely.

13) $\frac{x^2 - 8x + xy - 8y}{6x^2 - 6y^2} \div \frac{x - 8}{11x - 11y}$ 13) _____

A) 1

B) $\frac{(x - 8)^2}{66(x - y)^2}$

C) $\frac{11}{6}$

D) $\frac{11(x^2 - 8x + xy - 8y)}{6(x + y)(x - 8)}$

Solve the equation.

14) $\frac{x + 6}{x^2 - 4x - 5} - \frac{6}{x^2 + 2x + 1} = \frac{x - 6}{x^2 - 4x - 5}$ 14) _____

A) -42 B) -7 C) 7 D) -66

Divide.

15) $(5x^2 - 6x - 27) \div (x - 3)$ 15) _____

A) x - 6 B) 5x + 9 C) $5x^2 + 6$ D) 5x - 9

Simplify the radical expression. Assume that all variables represent positive real numbers.

16) $\sqrt{48k^7q^8}$ 16) _____

A) $4k^3q^4\sqrt{3}$ B) $4k^3q^4\sqrt{3k}$ C) $4q^4\sqrt{3k^7}$ D) $4k^7q^8\sqrt{3k}$

Multiply, and then simplify if possible. Assume all variables represent positive real numbers.

17) $(4 + \sqrt[3]{2})(4 - \sqrt[3]{2})$ 17) _____

A) 14 B) 12 C) $16 - \sqrt[3]{4}$ D) $16 - \sqrt[3]{2}$

Solve.

18) $\sqrt{3x + 1} = 3 + \sqrt{x - 4}$ 18) _____

A) -5, 8 B) 5, 8 C) -8, -5 D) ∅

Use the quadratic formula to solve the equation.

19) $2x^2 = -8x - 3$ 19) _____

A) $\frac{-4 - \sqrt{10}}{2}, \frac{-4 + \sqrt{10}}{2}$

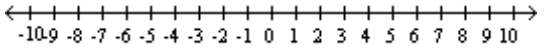
B) $\frac{-8 - \sqrt{10}}{2}, \frac{-8 + \sqrt{10}}{2}$

C) $\frac{-4 - \sqrt{10}}{4}, \frac{-4 + \sqrt{10}}{4}$

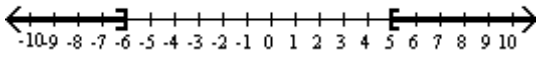
D) $\frac{-4 - \sqrt{22}}{2}, \frac{-4 + \sqrt{22}}{2}$

Solve the inequality. Graph the solution set and write the solution set in interval notation.

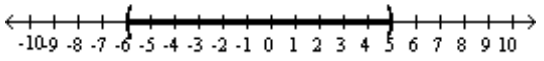
20) $(x + 6)(x - 5) > 0$ 20) _____



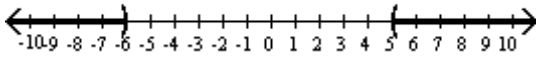
A) $(-\infty, -6] \cup [5, \infty)$



B) $(-6, 5)$



C) $(-\infty, -6) \cup (5, \infty)$



D) $[-6, 5]$