

Exam

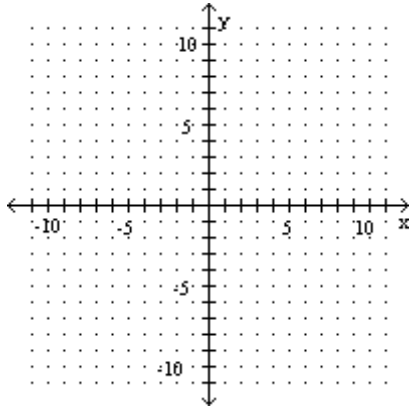
Name _____

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

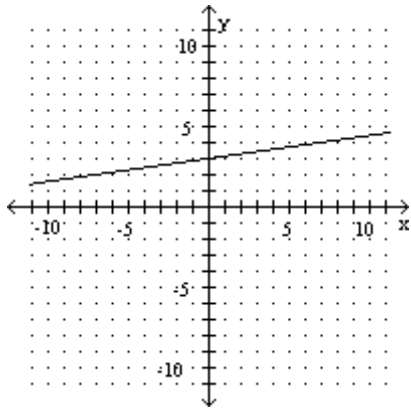
Graph the function.

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

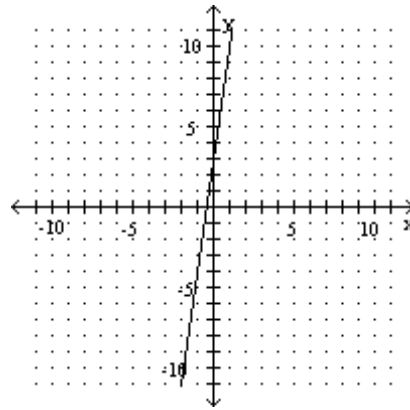
1) _____



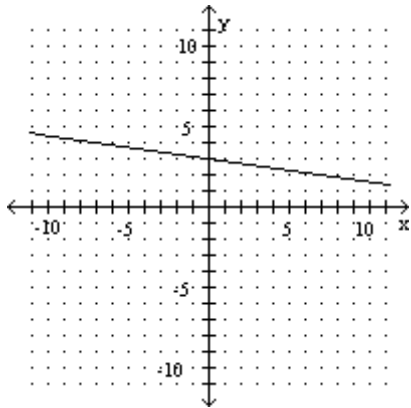
A)



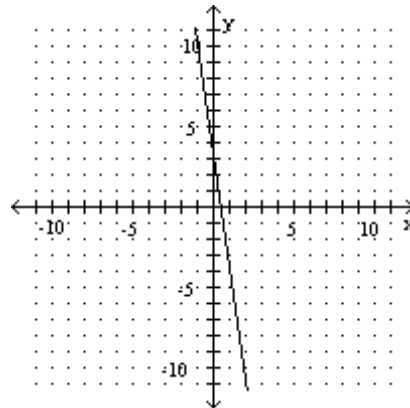
B)



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) $(0, \infty)$

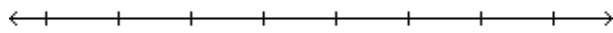
C) $[\frac{1}{33}, \infty)$

D) $(\frac{1}{33}, \infty)$

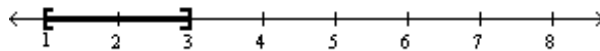
Solve the compound inequality. Graph the solution set.

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

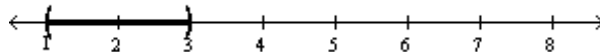
5) _____



A) $[1, 3]$



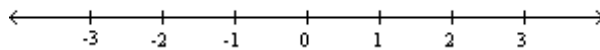
B) $(1, 3)$



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



D) \emptyset



Solve the absolute value equation.

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

6) _____

A) $-\frac{1}{2}, -\frac{3}{2}$

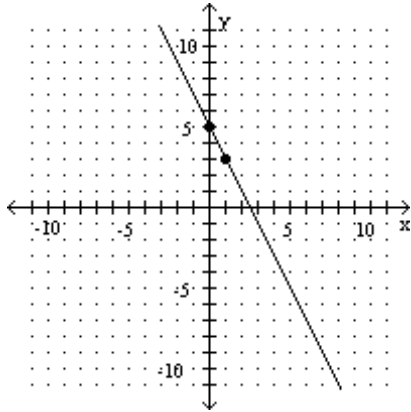
B) $-\frac{2}{5}, -\frac{6}{5}$

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)

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

8) _____

A) $(-5, -1)$

B) $(6, 5)$

C) $(5, 0)$

D) \emptyset

Solve the system.

9)

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

9) _____

A) $(-2, 4, -3)$

B) $(-2, -3, 4)$

C) $(4, -3, -2)$

D) \emptyset

Simplify. Write the answer with positive exponents.

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

10) _____

A) x^6y^{10}

B) $\frac{y^{10}}{x^6}$

C) $\frac{x^6}{y^6}$

D) $\frac{1}{x^6y^6}$

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) \emptyset

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

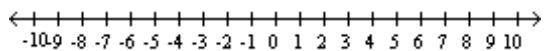
C) $\frac{-4 - \sqrt{10}}{4}, \frac{-4 + \sqrt{10}}{4}$

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

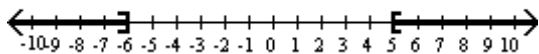
Solve the inequality. Graph the solution set and write the solution set in interval notation.

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

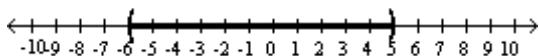
20) _____



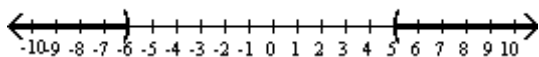
A) $(-\infty, -6] \cup [5, \infty)$



B) $(-6, 5)$



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



D) $[-6, 5]$

