Name:_____

Find the absolute value.

1) $|-4|$

　　A) 4　　　　　　　　B) ± 4　　　　　　　　C) -4　　　　　　　　D) 0

Tell whether the number is a solution of the given equation or inequality.

2) $12; -6x + 8 = -65.$

Find the area of the triangle with the given base and height.

3) base = 10m, height = 4.8m

　　A) 14.8 sq m　　　　B) 7.4 sq m　　　　C) 48 sq m　　　　D) 24 sq m

Evaluate the expression.

4) $7x \div (9 + x - y)$ for $x = 8$ and $y = 3$

　　A) $\dfrac{21}{4}$　　　　B) 6　　　　C) $\dfrac{27}{2}$　　　　D) 4

Use roster notation to name the set.

5) The set of all multiples of 6 between 30 and 60

　　A) $\{x \mid x$ is a multiple of 6 between 30 and 60$\}$

　　B) $\{30, 36, 42, 48, 54, 60\}$

　　C) $\{36, 42, 48, 54, 60\}$

　　D) $\{x \mid x = 6n, n$ is a whole number$\}$

Identify the inequality as true or false.

6) $11 \geq 13$

Simplify. Write answers using only positive exponents.

7) $\left(y^6\right)^5$

　　A) y^{30}　　　　B) y^{11}　　　　C) $\dfrac{1}{y^{11}}$　　　　D) $\dfrac{1}{y^{30}}$

Use the Quotient Rule to simplify the expression.

8) $\dfrac{-24x^6y^5}{6x^2y^3}$

　　A) $-30x^4y^2$　　　　B) $-4x^4y^2$　　　　C) $-4x^3y^{1.66666667}$　　　　D) $4x^4y^2$

Express the number in scientific notation.

9) .0000038717

　　A) 3.8717×10^{-5}　　　B) 3.8717×10^{6}　　　C) 3.8717×10^{-6}　　　D) 3.8717×10^{-7}

Express the number in standard notation.

10) 9.15×10^{-4}

　　A) $-915,000$　　　　B) .0000915　　　　C) .000915　　　　D) .00915

Decide whether or not the ordered pair is a solution of the equation.

11) $-14x - 9y = 5; (-1,1)$

　　A) No　　　　　　　　B) Yes

Simplify and write the answer using scientific notation.

12) $(1.4 \times 10^7)/(7.0 \times 10^{-2})$

A) 0.5×10^8 B) 2.0×10^8 C) 5.0×10^9 D) 0.2×10^9

Simplify. Write the answer using positive exponents only.

13) $\left(4x^8 y^{-6}\right)^{-3}$

A) $\dfrac{y^{18}}{64x^{24}}$ B) $\dfrac{1}{64x^{24}y^{18}}$ C) $\dfrac{-12y^{18}}{x^{24}}$ D) $4x^8 y^{18}$

Subtract.

14) $6 - (-3)$

A) -3 B) -9 C) 9 D) 3

Add.

15) $-24 + (-20)$

A) 4 B) -4 C) 44 D) -44

Calculate using the rules for order of operations.

16) $6 - (9 - 4 \bullet 8^2)$

A) 1021 B) -259 C) 253 D) -241

Divide.
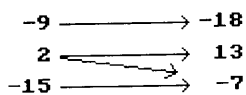
17) $\dfrac{5}{8} \div \dfrac{10}{7}$

A) $\dfrac{3}{20}$ B) $\dfrac{7}{16}$ C) $\dfrac{2}{3}$ D) $\dfrac{25}{28}$

Is the following correspondence a function?

18)

$-9 \longrightarrow -18$
$2 \Longrightarrow 13$
$-15 \longrightarrow -7$

A) No   B) Yes

Find a linear function whose graph has the given slope and y-intercept.

19) Slope $-\dfrac{6}{7}$; y-intercept 2

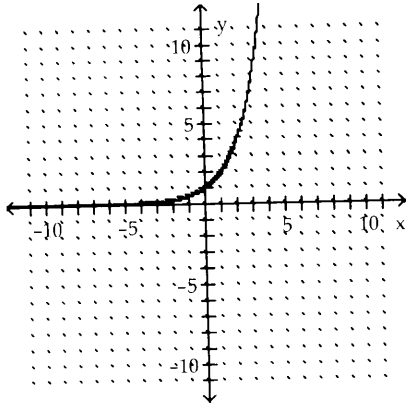A) $f(x) = \dfrac{6}{7}x - 2$ B) $f(x) = \dfrac{6}{7}x + 2$ C) $f(x) = -\dfrac{6}{7}x - 2$ D) $f(x) = -\dfrac{6}{7}x + 2$

Determine whether the graph is the graph of a function.

20)

A) Function

B) Not a function

Find the function value.

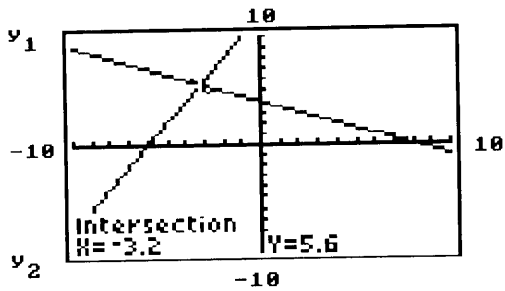21) Find $f(9.7)$ when $f(x) = \dfrac{x - 7}{2x + 6}$

A) 0.962

B) 0.106

C) 0.035

D) 0.139

Two linear functions, y1 and y2, are graphed in a viewing window with the point of intersection of the graphs given in the display at the bottom. Using the intersection-of-graphs method of graphical solution, give the solution set of y1 = y2.

22)

A) 5.6

B) -3.2

C) 6

D) 8

Solve the equation.

23) $5r + 5 = 55$

A) 6

B) 49

C) 10

D) 45

24) $15(2c - 2) = 3c - 8$

A) $\dfrac{38}{27}$

B) $\dfrac{2}{3}$

C) $\dfrac{22}{27}$

D) $-\dfrac{22}{27}$

25) $\dfrac{1}{2}f - 3 = 1$

A) 8

B) 4

C) -8

D) -4

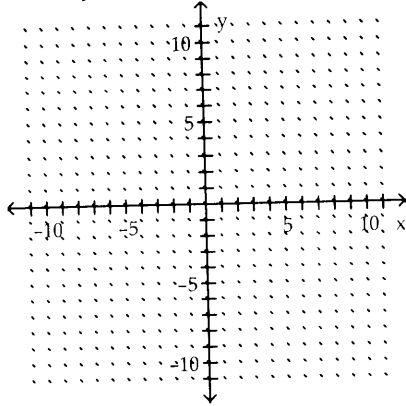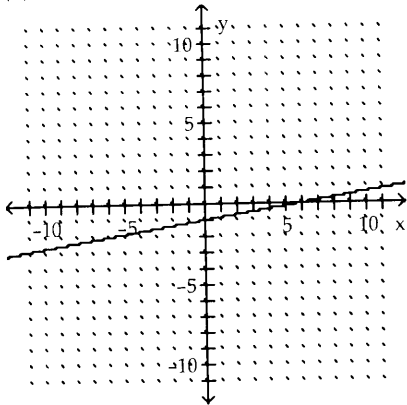Find the slope of the line.

26) $2y - 10 = 6x$

A) 5

B) 6

C) 3

D) 2

3

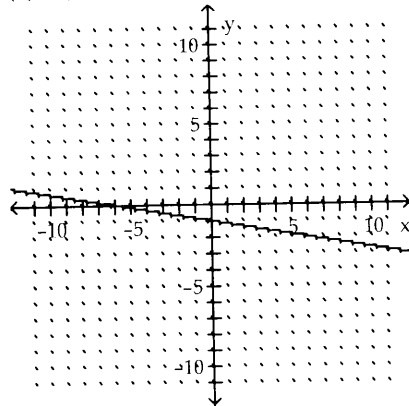**Find the y- and x-intercepts for the equation. Then graph the equation.**

27) $3x - 18y = 18$

A) $(0, -1); (6, 0)$

B) $(0, -1); (-6, 0)$

Tell whether the pair of lines is "parallel", "perpendicular", or "neither."

28) $3x - 6y = 7$
     $18x + 9y = 7$

A) Neither   B) Parallel   C) Perpendicular

Solve the problem.

29) A gas station sells 4,820 gallons of regular unleaded gasoline on a day when they charge $1.35 per gallon, whereas they sell 3865 gallons on a day that they charge $1.40 per gallon. Find a linear function that expresses gallons sold as a function of price.
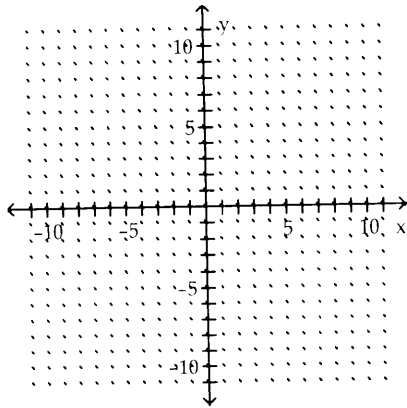
A) $G(p) = -19,100\,p + 30,621$

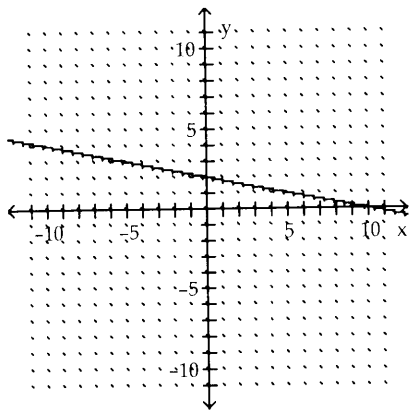B) $G(p) = -19,100\,p + 30,588.8$

C) $G(p) = -19,100\,p + 30,583.2$

D) $G(p) = -19,100\,p + 30,605$
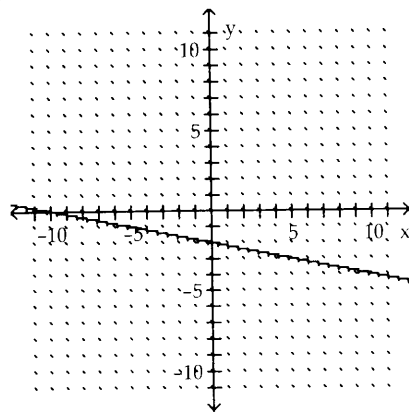
Graph the following line.
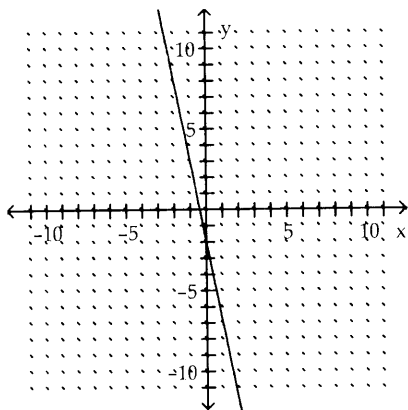
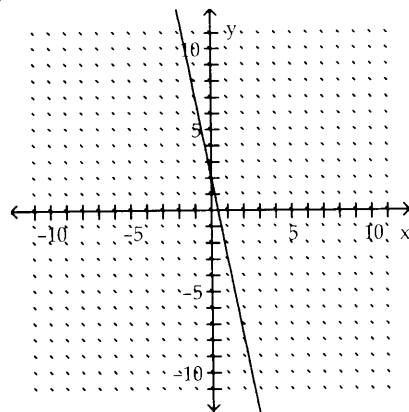30) Through $(10, 0)$, $m = -\dfrac{1}{5}$

A)

B)

C)

D)

Find an equation of the line having the specified slope and containing the indicated point. Write your answer in slope–intercept form.

31) $m = -\dfrac{2}{3}$; $(9, -3)$

     A) $y = \dfrac{2}{3}x + 3$ B) $y = -\dfrac{2}{3}x + 3$ C) $y = -\dfrac{2}{3}x + 9$ D) $y = -\dfrac{2}{3}x + 5$

Use the given data to find the equation for the least squares line. Round the final values to three significant digits.

32) The paired data below consist of the temperatures on randomly chosen days and the amount a certain kind of plant grew (in millimeters). Use linear regression to find a linear function that predicts a plant's growth as a function of temperature.

Temp	62	76	50	51	71	46	51	44	79
Growth	36	39	50	13	33	33	17	6	16

A) $y = 14.6 + 0.211x$ B) $y = -14.6 - 0.211x$ C) $y = 7.30 + 0.122x$ D) $y = 7.30 - 0.112x$

For the point–slope equation given, state the slope and the point on the graph used in creating the equation.

33) $y - 9 = -8(x + 8)$

A) $m = 8; (8, -9)$ B) $m = -8; (-8, 9)$ C) $m = 8; (-8, 9)$ D) $m = -8; (8, -9)$