

## DSPM 0850 Test 2 Review

**Identify as an equation or an expression.**

1)  $\frac{4}{9}x + 4 - \frac{5}{8}x - 3$

2)  $-4x + 3 = \frac{4x + 3}{8}$

**Solve the equation.**

3)  $\frac{x + 2}{3} = \frac{x + 3}{4}$

4)  $\frac{x}{16} - \frac{5}{8} = \frac{x + 6}{8}$

5)  $\frac{2}{t} = \frac{t}{4t - 6}$

6)  $\frac{-2x}{2x + 12} = \frac{2x}{4x + 24} + \frac{2x - 1}{x + 6}$

7)  $\frac{1}{m - 4} - \frac{6}{m + 4} = \frac{3}{m^2 - 16}$

**Solve for the specified variable.**

8)  $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$  for  $c$

9)  $P = \frac{A}{1 + rt}$  for  $r$

**Find the following.**

10) One printer can do a printing job in 2 hours. Another printer can do the same job in 15 hours. How long can they do the job working together?

11) One maid can clean the house in 2 hours. Another maid can do the job in 3 hours. How long will it take them to do the job working together?

12) A boat can go 88 mph in still water. It takes as long to go 200 miles upstream as it does to go downstream 240 miles. How fast is the current?

**Find the x- and y-intercepts, if possible. Then graph the equation.**

13)  $25y - 5x = -10$

14)  $4x - 8y = 8$

15)  $x = 6$

**Find the slope of the line through the pair of points.**

16)  $(-5, -7)$  and  $(-6, -9)$

17)  $(5, -9)$  and  $(-6, -1)$

**Find the slope of the line and sketch the graph.**

18)  $4x + 5y = 32$

**Graph the line described.**

19) Through  $(-2, -4)$ ;  $m = 3$

**Decide whether the pair of lines is parallel, perpendicular, or neither.**

20)  $3x - 8y = 14$  and  $32x + 12y = 12$

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

21)  $m = -\frac{2}{9}$ ; y-intercept  $\left(0, \frac{31}{9}\right)$

22)  $m = \frac{5}{2}$ ; y-intercept  $(0, -3)$

**Write the equation in slope-intercept form.**

23)  $7x + 5y = 19$

24)  $x - 8y = 7$

**Find an equation of the line that satisfies the conditions. Write the equation in standard form.**

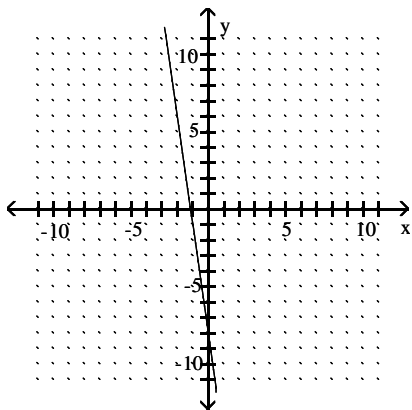
25) Through  $(0, 2)$ ;  $m = \frac{5}{7}$

**Decide whether the relation is a function.**

26)  $\{(-3, 3), (3, -7), (4, 7), (9, 2), (11, -6)\}$

**Decide whether the relation is a function, and give the domain and range.**

27)



**Find the following.**

28) Find  $f(0)$  when  $f(x) = x^2 + 5x - 7$

29) Find  $f(k)$  when  $f(x) = 3x^2 + 4x + 5$

30) Find  $f(k - 1)$  when  $f(x) = 3x^2 - 5x - 6$

**Solve the system.**

31)  $3x + 2y = 5$   
 $-6x - 4y = 5$

32)  $\frac{3}{2}x - \frac{1}{3}y = 5$

$\frac{5}{2}x + \frac{2}{3}y = 12$

**Solve the system.**

33)  $5x - 6y = 4$   
 $-15x + 18y = 12$

**Find the following.**

34) The perimeter of a rectangle is 40 cm. The length is 12 cm longer than the width. What are the length and width of the rectangle?

35) Bob fenced in a rectangular garden in his yard. The length of the rectangle is 5 feet longer than the width and the perimeter is 70 feet. What is the width of the rectangle?

36) A woman made a deposit of \$183. If her deposit consisted of 83 bills, some of them one-dollar bills and the rest being five-dollar bills, how many one-dollar bills did she deposit?

37) There were 440 people at a play. The admission price was \$3 for adults and \$1 for children. The admission receipts were \$900. How many adults and how many children attended?

38) How many liters (L) of a 20% alcohol solution must be mixed with 70% solution to get 100 liters of a 50% solution?

39) How many liters (L) of a 10% silver iodide solution must be mixed with 9 L of a 4% silver iodide solution to get a 6% solution?

40) A cruise boat travels 24 miles downstream in 4 hours and returns to its starting point upstream in 6 hours. Find the speed of the stream.

- 41) During the 1998-1999 Little League season, the Tigers played 47 games. They lost 13 more games than they won. How many games did they win that season?
- 42) Andy has 26 coins made up of quarters and half dollars, and their total value is \$9.25. How many quarters does he have?
- 43) A boat goes 450 miles downstream in the same time it can go 400 miles upstream. The speed of the current is 7 miles per hour. Find the speed of the boat in still water.

Answer Key

Testname: DSPM 0850 TEST 2 REVIEW05F (4)

1) Expression

2) Equation

3) { 1 }

4) { -22 }

5) {6, 2}

6)  $\left\{ \frac{2}{7} \right\}$

7) {5}

8)  $c = \frac{ab}{a + b}$

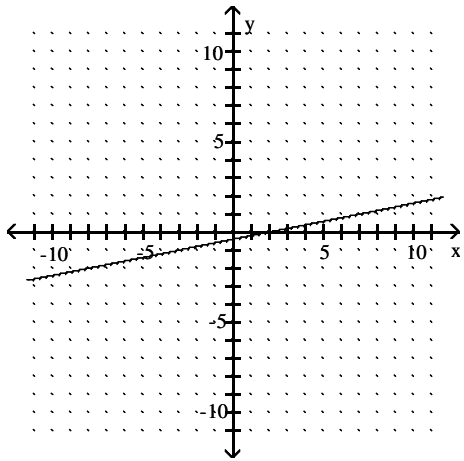
9)  $r = \frac{A - P}{Pt}$

10)  $1\frac{13}{17}$  hours

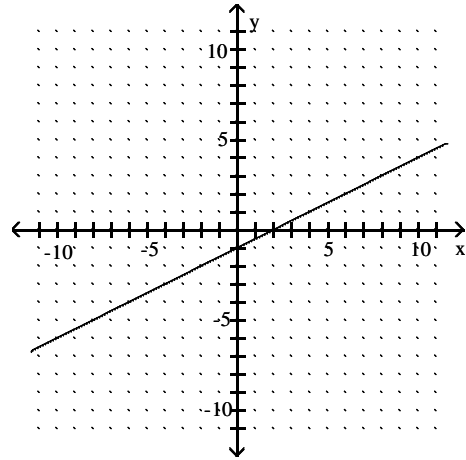
11)  $1\frac{1}{5}$  hr

12) 8 mph

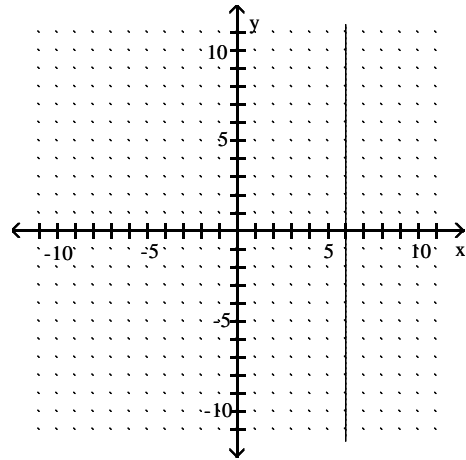
13)  $(2, 0); \left(0, -\frac{2}{5}\right)$



14)  $(2, 0); (0, -1)$



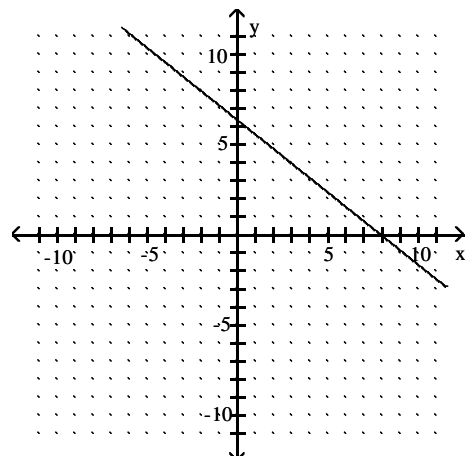
15)  $(6, 0);$  none



16) 2

17)  $-\frac{8}{11}$

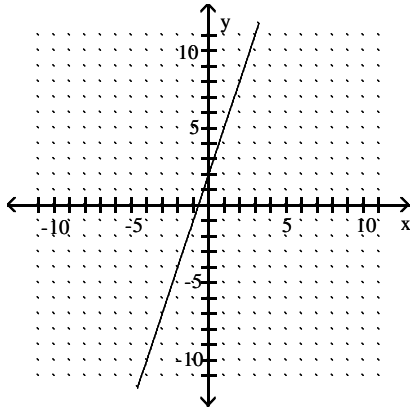
18) Slope:  $-\frac{4}{5}$



Answer Key

Testname: DSPM 0850 TEST 2 REVIEW05F (4)

19)



20) Perpendicular

$$21) y = -\frac{2}{9}x + \frac{31}{9}$$

$$22) y = \frac{5}{2}x - 3$$

$$23) y = -\frac{7}{5}x + \frac{19}{5}$$

$$24) y = \frac{1}{8}x - \frac{7}{8}$$

$$25) 5x - 7y = -14$$

26) Function

27) Function; domain:  $(-\infty, \infty)$ ; range:  $(-\infty, \infty)$

28) -7

$$29) 3k^2 + 4k + 5$$

$$30) 3k^2 - 11k + 2$$

31)  $\emptyset$

32)  $\{(4, 3)\}$

33)  $\emptyset$

34) Length: 16 cm; width: 4 cm

35) 15 feet

36) 58 one-dollar bills

37) 230 adults and 210 children

38) 40 L

39) 4.5 L

40) 1 mph

41) 17 games

42) 15 quarters

43) 119 mph