

## Skills Assessment Review

DIRECTIONS: Solve each problem in this test, circle the correct answer.

- |  |  |
|--|--|
| <p>1.) <math display="block">\begin{array}{r} 380 \\ \times 25 \\ \hline \end{array}</math></p> <p>a.) 9,500<br/>b.) 8,400<br/>c.) 8,060<br/>d.) 2,660</p> | <p>6.) <math>168 + 34 + 4,725</math></p> <p>a.) 9805<br/>b.) 4917<br/>c.) 4927<br/>d.) 4827</p>  |
| <p>2.) <math display="block">\begin{array}{r} 1614 \\ - 431 \\ \hline \end{array}</math></p> <p>a.) 1283<br/>b.) 1223<br/>c.) 1183<br/>d.) 1193</p>        | <p>7.) <math>300 \times 10,000</math></p> <p>a.) 30,000<br/>b.) 300,000<br/>c.) 3,000,000<br/>d.) 30,000,000</p>   |
| <p>3.) Which of the following is equal to 27%?</p> <p>a.) 27/1000<br/>b.) 27/100<br/>c.) 27/10<br/>d.) 27/1</p>  | <p>8.) <math>1/7 + 2/7</math></p> <p>a.) 3/49<br/>b.) 2/14<br/>c.) 3/14<br/>d.) 3/7</p>  |
| <p>4.) <math display="block">\begin{array}{r} 5,608 \\ + 697 \\ \hline \end{array}</math></p> <p>a.) 5295<br/>b.) 6305<br/>c.) 6295<br/>d.) 5305</p>       | <p>9.) <math>28.9 - 1.45</math></p> <p>a.) 14.4<br/>b.) 26.45<br/>c.) 27.45<br/>d.) 27.55</p>  |
| <p>5.) <math>3 \overline{)921}</math></p> <p>a.) 37<br/>b.) 370<br/>c.) 307<br/>d.) 703</p>  | <p>10.) <math display="block">\begin{array}{r} 21.8 \\ \times 4.07 \\ \hline \end{array}</math></p> <p>a.) 10.246<br/>b.) 88.726<br/>c.) 88.733<br/>d.) 89.726</p> |

- 11.)  $4 \div 3/8$
- a.)  $32/3$   
 b.)  $32/12$   
 c.)  $12/80$   
 d.)  $3/32$
- 12.) How many 6 ounce servings can be made with three 32 ounce cartons of milk?
- a.) 16  
 b.) 18  
 c.) 24  
 d.) 64
- 13.)  $1/6 + 1/5$
- a.)  $1/30$   
 b.)  $1/11$   
 c.)  $2/11$   
 d.)  $11/30$
- 14.)  $47 \overline{)4918}$
- a.) 14 with remainder 3  
 b.) 14 with remainder 30  
 c.) 104 with remainder 30  
 d.) 104 with remainder 3
- 15.)  $4.7 \times 100$
- a.) 0.047  
 b.) 47  
 c.) 470  
 d.) 4700
- 16.)  $8/12$
- a.)  $1/4$   
 b.)  $2/3$   
 c.)  $2/5$   
 d.)  $3/4$
- 17.)  $612 - 39$
- a.) 583  
 b.) 573  
 c.) 222  
 d.) 322
- 18.)  $4/15 \times 3/4$
- a.)  $1/3$   
 b.)  $1/4$   
 c.)  $1/5$   
 d.)  $1/6$
- 19.)  $3.6 \overline{)11.16}$
- a.) 0.31  
 b.) 3.1  
 c.) 31  
 d.) 0.031
- 20.)  $2 \frac{5}{6} =$
- a.)  $7/6$   
 b.)  $310/6$   
 c.)  $13/6$   
 d.)  $17/6$
- 21.) If 5 lbs. of hamburger cost \$6.05, how much will 3 lbs. cost?
- a.) \$1.21  
 b.) \$2.42  
 c.) \$3.63  
 d.) \$9.68
- 22.)  $1.63 \times 20.9$
- a.) 340.67  
 b.) 34.067  
 c.) 4.727  
 d.) 47.27

23.)  $13/8 \div 11/4$

- a.)  $32/143$
- b.)  $13/22$
- c.)  $22/13$
- d.)  $143/32$

29.) 8% of 30 is

- a.) 0.24
- b.) 2.4
- c.) 24
- d.) 240

24.) Sixty gallons of gas were used on a four day car trip. We traveled 1800 miles. What was the average number of miles per gallon for the trip?

- a.) 20
- b.) 30
- c.) 15
- d.) 34

30.) If the price of an item originally costing \$4.40 is reduced by 10%, the new price is

- a.) \$3.96
- b.) \$4.00
- c.) \$4.36
- d.) \$4.84

25.)  $15 \times 2 \frac{3}{5}$

- a.)  $30 \frac{3}{5}$
- b.) 33
- c.)  $36 \frac{1}{5}$
- d.) 39

31.) 560 divided by 0.8

- a.) 0.7
- b.) 7.0
- c.) 70
- d.) 700

26.)  $25/8 =$

- a.) 0.32
- b.) 3.125
- c.) 3.2
- d.) 31.25

32.)  $4/3 + 3/4 - 1/2$

- a.)  $1/2$
- b.)  $6/5$
- c.)  $19/12$
- d.)  $31/12$

27.)  $3/4 - 1/3$

- a.)  $5/12$
- b.)  $2/12$
- c.)  $1/6$
- d.)  $2/1$

33.)  $\frac{98.3}{1000}$

- a.) 0.0983
- b.) 0.983
- c.) 98.30
- d.) 983.0

28.) If a swimming pool is 40 meters long, how many complete lengths would a person have to swim in order to have gone at least 1500 meters?

- a.) 12
- b.) 14
- c.) 36
- d.) 38

34.) What percent of 30 is 24?

- a.) 5%
- b.)  $12\frac{1}{2}\%$
- c.) 75%
- d.) 80%

35.) Wendy purchased a car and made a down payment of \$300. If the down payment was  $\frac{1}{12}$  of the purchase price, what was the purchase price?

- a.) \$2500
- b.) \$3300
- c.) \$3600
- d.) \$4000

### ANSWER KEY

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

- 1.) a.)  $(-8)^2 (1 - 0.68) \div (0.2)$   
b.) Subtract 8 from 10.068  
c.) Take 2.9876 from 9
- 2.) Compute:  
 $3 - (-7) - 12$
- 3.) Multiply:  
 $(-2)(-3)(-12)$
- 4.) Write  $\frac{4}{15}$  as a decimal. Place a bar over the repeating digits of the decimal.
- 5.) Simplify:  
 $\frac{3}{8} - \frac{5}{12} + \frac{1}{2}$
- 6.) Evaluate:  
 $(-2)^2 \cdot 3^2$
- 7.) Simplify:  
 $12 - 8 \div (3 - 5)^2 + 2$
- 8.) The daily low temperature readings for a four-day period were as follows:  $-12^\circ$ ,  $-8^\circ$ ,  $3^\circ$ , and  $5^\circ$ . Find the average low temperature for the four day period.
- 9.) Evaluate:  
 $a^2 - 2ab$   
when  $a = -3$  &  $b = 2$
- 10.) Simplify:  
 $-3a + 2b - (-5a) - 8b$
- 11.) Simplify:  
 $(-18x) \cdot \frac{1}{3}$
- 12.) Simplify:  
 $-5(2x^2 - 3y^2)$
- 13.) Simplify:  
 $3x(x - 2x^2) - (4x^2 - 8x)$
- 14.) Simplify:  
 $2x - 4[2x - 3(-x)]$
- 15.) Translate: "the difference between twelve times a number and the product of the number and three" into a variable expression.
- 16.) Translate and simplify twelve times the sum of two consecutive even integers".
- 17.) Is  $-\frac{1}{2}$  a solution of:  
 $2x^2 - 7x - 4 = 0$
- 18.) Solve:  
 $\frac{-3x + 5}{2} = \frac{7}{3}$
- 19.) Solve:  
 $4y + 3 = 6y - 2$
- 20.) Solve:  
 $-2(x - 5) = (3x - 5)$
- 21.) Solve:  
 $2x - 3(3x - 1) = 1 - 5x$
- 22.) The sum of two numbers is fifteen. The difference between three times the larger number and five times the smaller number is 5. Find the two numbers.
- 23.) A board 14 ft. long is cut into two pieces. Two times the length of the longer piece is 3 ft. longer than 3 times the length of the shorter piece. Find the length of each piece.

Simplify the following

24.)  $(-6x^2 + 2x^3 - 8) - (4x^3 - 7x^2 + 2x)$

25.)  $-3a^2b^3(2a^3b^2 - 4ab + b)$

26.)  $(2x - 3)(x^2 - 4x + 2)$

27.)  $(4y - 5)(3y + 7)$

28.)  $(2x + 7y)^2$

29.)  $\frac{(-2x^4y^2)^2}{4xy^5}$

30.)  $(x^3 - 2x - 5) \div (x - 3)$

31.)  $(-3x^4y^{-3})^3$

Factor the following:

32.)  $y^2 + 5y - 36$

33.)  $16x^2 - 1$

34.)  $4x^2 - 19x + 12$

35.)  $25x^2 - 49y^2$

36.)  $x^2 - 16x + 64$

Solve for y:

37.)  $2x - 3y = 10 + x$

38.)  $5y - 12 = 10x - 6y$

39.)  $2(x - y) = 12$

40.)  $4 - 8y = 12x$

41.)  $x/y = 3$

Solve for x by factoring or by finding the square root:

42.)  $x^2 - 7x = 18$

43.)  $x(x - 5) = 50$

44.)  $(2x - 3)(x + 4) = 0$

45.)  $8x^2 - 32 = 0$

46.)  $5(x + 1)^2 = 20$

- 47.) An integer plus three times the square of the integer is ten. Find the integer.
- 48.) The length of a rectangle is 8 feet more than the width. The area of the rectangle is 65 square feet. Find the length and width.
- 49.) The retail selling price of a radio is \$52. This price is \$23 more than the cost of the radio. Find the cost of the radio.
- 50.) Due to depreciation, the value of a car is now \$3600. This is three-fifths of its original value. Find the original value.
- 51.) An advertising agency spent three times as much for television advertising as it spent for radio advertising. The total advertising budget for radio and television was \$36,000. How much was spent for each?
- 52.) An attorney spent 60 hours on two cases. Four times as many hours were spent on one case as on the second case. Find the number of hours spent on each case.
- 53.) During a holiday season a company employs 2100 people. There are twice as many part-time employees as management employees. Using this estimate, how many management employees should a company with 480 employees have?
- 54.) A cement patio slab is in the shape of a rectangle. The length of the slab is 20ft. This is 4 ft. more than twice the width of the slab. Find the width of the slab.
- 55.) A board 12 ft. long is cut into two pieces. Three times the length of the shorter piece is 1 ft. more than the twice the longer piece. Find the length of each piece.
- 56.) An investor deposits \$10,000 into two accounts. Two times the larger deposit is equal to the difference between four times the smaller deposit and \$4000. Find the amount deposited in each account.

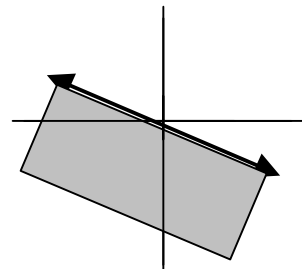
ANSWER KEY

- 1.) a) 102.4  
b) 2.068  
c) 6.0124
- 2.) -8
- 3.) -72
- 4.) .26
- 5.) 11/24
- 6.) -72
- 7.) 12
- 8.) -3
- 9.) 21
- 10.)  $2a - 6b$
- 11.)  $-6x$
- 12.)  $-10x^2 + 15y^2$
- 13.)  $-6x^3 - x^2 + 8x$
- 14.)  $-18x$
- 15.)  $12n - 3n$  or  $9n$
- 16.)  $12(n + n + 2) = 24n + 24$
- 17.) yes
- 18.)  $1/9$
- 19.)  $5/2$
- 20.) 3
- 21.) 1
- 22.) Smaller is 5; larger is 10
- 23.) Longer is 9; smaller is 5
- 24.)  $-2x^3 + x^2 - 2x - 8$
- 25.)  $-6a^5b^5 + 12a^3b^4 - 3a^2b^4$
- 26.)  $2x^3 + 11x^2 + 16x - 6$
- 27.)  $12y^2 + 13y - 35$
- 28.)  $4x^2 + 28xy + 49y^2$
- 29.)  $x^7/y$
- 30.)  $x^2 + 3x + 7 + [6/(x-3)]$
- 31.)  $\frac{-27x^{12}}{y^9}$
- 32.)  $(y + 9)(y - 4)$
- 33.)  $(4x + 1)(4x - 1)$
- 34.)  $(4x - 3)(x - 4)$
- 35.)  $(5x - 7y)(5x + 7y)$
- 36.)  $(x - 8)^2$
- 37.)  $y = \frac{x - 10}{3}$
- 38.)  $y = \frac{10x + 12}{11}$
- 39.)  $y = x - 6$
- 40.)  $y = \frac{1 - 3x}{2}$
- 41.)  $y = \frac{x}{3}$
- 42.)  $x = -2, x = 9$
- 43.)  $x = -5, x = 10$
- 44.)  $x = 3/2, x = -4$
- 45.)  $x = 2$
- 46.)  $x = 1, x = -3$
- 47.)  $n = 5/3, n = -2$
- 48.) length =  $5 + 8 = 13$  ft.  
width = 5 ft.
- 49.) \$29
- 50.)  $x = \$6,000$
- 51.) radio = \$9,000  
TV = \$27,000
- 52.) 1<sup>st</sup> case = 12 hours  
2<sup>nd</sup> case = 48 hours
- 53.) management employees = 160
- 54.) width = 8 ft.
- 55.) shorter piece = 5 ft.  
longer piece = 7 ft.
- 56.) larger account = \$6,000  
smaller account = \$4,000

1. Susan went on a diet and lost 8% of her weight. She now weighs 184 pounds. How much did she weigh before she went on a diet?
  - a) 190 lb
  - b) 200 lb
  - c) 250 lb
  - d) 180 lb
  
2. Mrs. Smith and family went out to dinner in state where there is no sales tax for meals. They paid \$65.05 which included a 15% tip. Which equation would you use to find  $x$ , the cost of their dinner?
  - a)  $x = .15 = 65.05$
  - b)  $.15x = 65.05$
  - c)  $x + .15x = 65.05$
  - d)  $x = 65.05 (.15)$
  
3. Tim bought \$23.50 worth of groceries. With the tax he paid \$24.91. What was the percent of tax?
  - a) 8%
  - b) 9%
  - c) 6%
  - d) 7%
  
- 4) Mary has 25 math problems on her homework. It has taken her 18 minutes to complete 15 problems. At that rate, how long will it take her to finish all 25 problems?
  - a) 15 min.
  - b) 25 min.
  - c) 30 min.
  - d) 40 min.
  
- 5.) Which of the following is the slope of the line that passes through the points (-3,4) and (0, -2)?
  - a)  $2/3$
  - b)  $-1/2$
  - c)  $-2$
  - d)  $0$

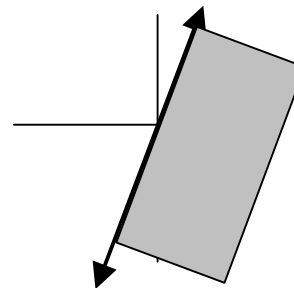
6.) Which inequality is graphed to the right?

- a)  $y < -x/2$
- b)  $y > -1/2$
- c)  $y \geq -x/2$
- d)  $y \leq -x/2$



7.) Which inequality is graphed to the right?

- a)  $y > 3x$
- b)  $y < 3x$
- c)  $y \leq 3x$
- d)  $y \geq 3x$

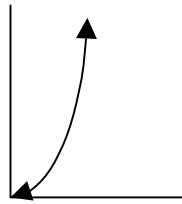


8.) The slope – intercept form of the equation  $3x + 4y = 12$  is:

- a)  $y = 3x/4$
- b)  $y = 4 - (3x)/4$
- c)  $y = 3 - (3x)/4$
- d) None of these

9.) Which of the following is the equation of the given graph?

- a)  $y = x^2$
- b)  $y = 2x$
- c)  $y = x/2$
- d)  $y = 2^x$



10.) Which is the value of x in the equation:  $3^7 \cdot 3^x = 3^{13}$

- a) 3
- b) 7
- c) 6
- d) 13

11.) The slope of the line  $5y + 4x = 20$  is

- a) 4
- b)  $-4/5$
- c)  $4/5$
- d) None of the above

12.) The factor of  $y^2 + 12y + 36$  into the product of two binomials is:

- a.)  $(y + 12)(y + 3)$
- b.)  $(y + 6)^2$
- c.)  $(y + 6)(y - 6)$
- d.) None of these

13.) The solution to the equation  $8x(x - 1)(x + 3) = 0$  is

- a) 8, 1, 3
- b) 0, 1, -3
- c) 8, -1, 3
- d) No solution

14.)  $(x - 8)^2$  is equivalent to

- a)  $x^2 - 64$
- b)  $x^2 + 64$
- c)  $x^2 - 8^2$
- d)  $x^2 - 16x + 64$

15.) What is the value of y in the system of equations

$$\begin{aligned}x + y &= 18 \\ y &= 2x - 3\end{aligned}$$

- a) 15
- b) 11
- c) -3
- d) 16

16.) Six ounces of a 10% acid solution are mixed with 10 ounces of a 50% acid. What is the percentage of acid in the resulting solutions?

- a) 35%
- b) 60%
- c) 40%
- d) None of these

17.) A punch is made by mixing 4 parts pineapple juice with 3 parts orange juice. If 14 gallons of punch are needed, how many gallons of pineapple juice will it take?

- a) 8
- b) 10
- c) 4
- d) None of these

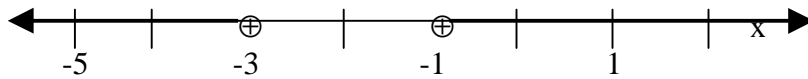
18.) Two cars are headed for Chicago on the same road. The first car which is traveling at the rate of 60 miles per hour is 50 miles ahead of the second car which is traveling at the rate of 70 miles per hour.

- a) 4 hours
- b) 5 hours
- c) 6 hours
- d) 3.5 hours

19.) Which is the solution of the equation  $x - 11 = 5$

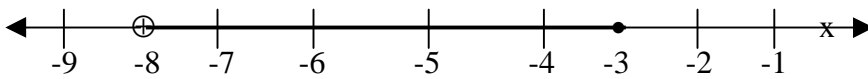
- a) -11, 5
- b) 0, 16
- c) 6, 16
- d) None of these

20.) Which of the inequalities describe the given graph:



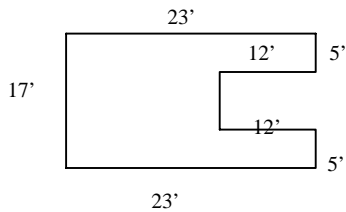
- a)  $x < -3$  or  $x > -3$                       b)  $x < -3$  and  $x > -3$   
 b)  $x < -3$  and  $x > -3$                       d) None of these

21.) Which of the inequalities describe the given graph



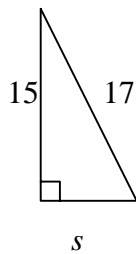
- a)  $x < -8$  and  $x \leq -3$                       b)  $-8 < x \leq -3$   
 c)  $x > -8$  and  $x \geq -3$                       d)  $-8 \leq x < -3$

22.) What is the area of the given figure if all angles are right angles



- a) 331 sq. ft.                      b) 192 sq. ft.                      c) 307 sq. ft.                      d) 391 sq. ft.

23.) Find the value of s in the right-angled triangle



- a) 2                      b) 6                      c) 7                      d) 8

24.) Of the 20 swimmers on a high school team, 16 can swim either the distance or the sprint events well. Seven can swim only the distance events well and 5 can swim only the sprint events well. How many can swim both kinds of events well?

- a) 4                      b) 9  
c) 3                      d) 12

25.) The general equation of the line that passes through the point (1, 3) and parallel to the line  $2x - y = -4$

- a)  $y = 2x + 4$                       b)  $2x = y - 4$   
c)  $y = 2x + 1$                       d)  $y = x/2 + 4$

- 26.) a) Evaluate:  $3a - 2ab^2$   
           $a = 1, b = -2$   
  
b) How do you use a TI-82 to evaluate for  $a = .01, b = .03$  ?

27.) The number of bacteria present at 8:00 a.m. was 2000 and increased at a rate of 4% per hour.

- a) Find the size of the population in ten hours.  
b) Find the size of the population in one day.

28.) You invest \$1500 at 5.25% interest compounded quarterly. How much do you have at the end of 8 years?

29.) Show your answers on a number line:

- a)  $3(x - 2) < -8x + 7$   
b)  $-5x \geq 10$

30.) \$1000 is deposited in a savings account for 10 years at 8% interest compounded semiannually.

- a) Graph the amount of money in the account dependent on the time ( t ) in years.  
b) How much is the account at:  
i.) 5 years      ii.) 0 years  
c) How long (in years) will it take for the account to double?

31.) a) Solve for the common solution:

$$3x + y = 6$$

$$x + 1/3y = 2$$

b) Write the equation of the line through:

i.) (2, 5) (0, -9)

ii.) (5, -2) with a slope of  $1/2$ .

iii.) Graph:

$$y \leq -2x + 4$$

$$y > 2x - 4$$

32.) Draw the graphs of  $y = 3^x$  &  $y = 3^{-x}$ . Where do they intersect?

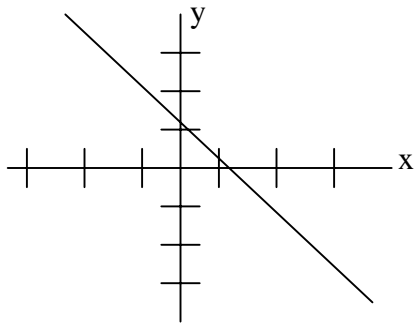
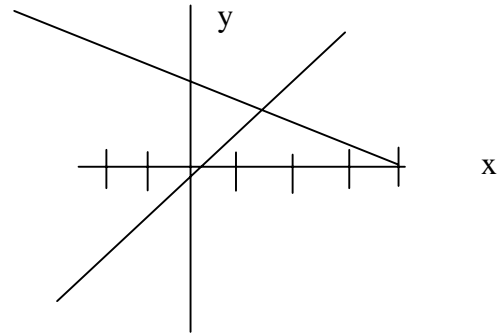
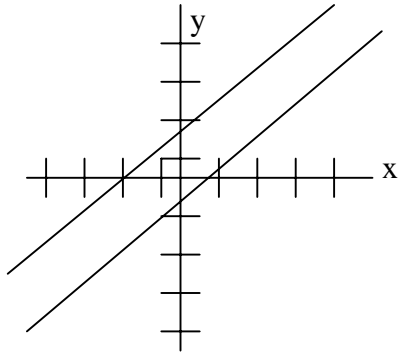
33.) a) Graph:  $y = \sqrt{x}$   
          and  $y = \sqrt{x} + 7$

- b) What equation will produce a shift 5 units left?  
c) What equation will produce a shift 10 units down?

- 34.)  $y = (x + 7)^2 - 8$   
 What is the vertex?  
 What are the roots?
- 35.) Give the equation of the line of symmetry and the coordinates of the vertex of the graph of  $y = x^2 - 6x + 5$
- 36.) Draw the graph of  $y = (x - 1)^2 - 4$ .
- 37.) Draw the line through  $(-1, -1)$  with the slope  $3/5$ .
- 38.) Write an equation for the line determined by the points  $(-1, -2)$  and  $(5, 2)$ .
- 39.) Find the solution:  
 $x + 3y < 1$   
 $3x - 2y > -8$
- 40.) The slope of the graph of:  
 $4x + 5y - 12 = 0$   
 a)  $-4/5$                       b)  $5/4$   
 c)  $12/5$                       d)  $4/5$                       e)  $-5/4$
- 41.) The equation of the line with slope 3 and y-intercept  $-4$  is?  
 a)  $y = -3x + 4$               b)  $y = 3x - 4$   
 c)  $y = 4x + 3$               d)  $y = -4x + 3$   
 e)  $y = 3x$
- 42.) Where does the graph of  $y = x^2 + x - 12$  cross the x-axis?  
 a)  $x = 4$  and  $x = -3$   
 b)  $x = 3$  and  $x = -4$   
 c)  $x = 3$  only  
 d)  $x = -4$  only  
 e) does not cross the x-axis
- 43.) What is the line of symmetry for:  
 a) The graph of  $y = -3(x - 2)^2 - 1$   
 a)  $y = -1$   
 b)  $x = -6$   
 c)  $x = 6$   
 d)  $x = -2$   
 e)  $x = 2$   
 b) Sketch the graph.  
 c) Show vertex and roots.
- 44.) The slope of the line through the points  $(2, -4)$  and  $(5, -1)$  is?  
 a)  $5/3$                               b)  $1$   
 c)  $-5/3$                             d)  $-1$                             e)  $-1/3$
- 45.) Assume that two lines are parallel and that the first has a slope of  $-4/3$ . The slope of the second line is?  
 a)  $4/3$                               b)  $-4/3$   
 c)  $3/4$                               d)  $-3/4$                             e)  $1/3$
- 46.) Assume that two lines are perpendicular and that the first has a slope of  $4/3$ . The slope of the second line is?  
 a)  $-4/3$                               b)  $4/3$   
 c)  $1/3$                               d)  $-3/4$                             e)  $3/4$
- 47.) Determine  $k$  so that the graph of the equation  $4x - 3y = k$  has y-intercept  $-1$ .  
 a)  $1$                                   b)  $-1$   
 c)  $3$                                   d)  $-3$                                   e)  $-4$
- 48.) a) Find the equation of a line perpendicular to  $y = -1/2x - 3$  and passing through point  $(-2, -3)$ .  
 b) What is the slope?  
 i.)  $y = -3$                             ii.)  $x = 2$   
 iii.)  $y + 8 = 3x$

49.) What are the x and y intercepts of:  $5x - 9y = 16$ ?

50.) Each of the following represents the graph of a system of two linear equations. State the number of solutions for each of the systems.



51.) a.) Graph  $y = f(x) = \sqrt{x - 16}$

b.) Graph  $y = f(x) = \sqrt{x} + 5$

54.) Graph  $y \geq 5$  &  $x \leq -4$ .

Clearly label each one.

52.) Graph  $2y + 6x < 4$

55.) Graph the solution:  $3x - y \geq -3$

53.) Calculate the x and y intercepts for  $2y + 6x = 4$

56.) Jim is a heating technician who charges a \$35 flat fee to come to your home and \$42 per hour to service your unit.

a) Complete the table;  $t$  represents the number of hours Jim was on the job and  $C$  is the total charge.

$t$	0	1	1.5	2	2.5	3	3.5	4
$C(t)$								

b) Is this a linear function? If so, write a charge function.

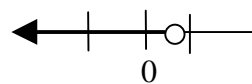
c) What is the charge for a job that takes 6 hours?

### ANSWER KEY

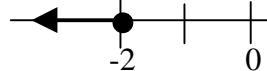
NOTE: Graphs are not drawn to scale! They are to give the general idea of the look of the appropriate answer.

- 1.) B
- 2.) C
- 3.) C
- 4.) C
- 5.) C
- 6.) D
- 7.) C
- 8.) C
- 9.) D
- 10.) C
- 11.) B
- 12.) B
- 13.) B
- 14.) D
- 15.) B
- 16.) A
- 17.) A
- 18.) B
- 19.) D
- 20.) D
- 21.) B
- 22.) C
- 23.) D
- 24.) A
- 25.) C
- 26.) a.) -5
- 27.) a.)  $2000(1 + .04)^{10} = 2960$
- b.) 5126
- 28.)  $1500(1 + (0.0525/4))^{32} = \$2276.71$

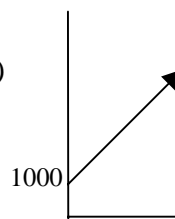
29.) a.)



b.)



30.) a.)

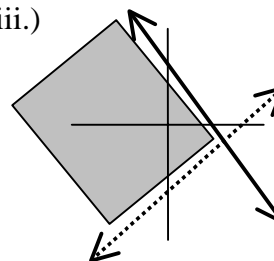


b.) i.)  $1000(1 + .08/2)^{10} = \$1480.24$   
 ii.) \$1000

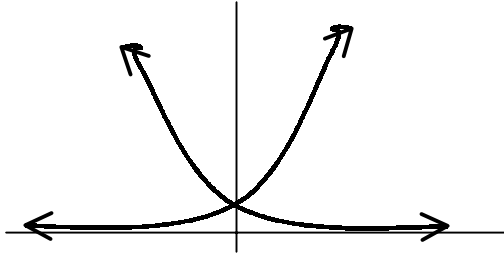
c.) 8.8 yrs.

31.) a.) They are the same line; infinite solutions

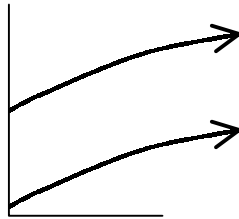
b.) i.)  $y = 7x - 9$   
 ii.)  $y = \frac{1}{2}x - \frac{9}{2}$   
 iii.)



32.) Intersect P: (0, 1)



33.) a.)



b.)  $y = \sqrt{x + 5}$

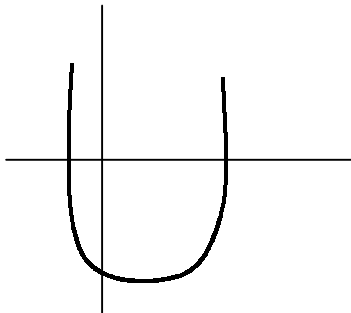
c.)  $y = \sqrt{x} - 10$

34.) vertex: (-7, -8)

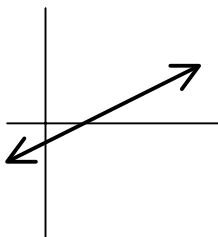
roots:  $-7 \pm \sqrt{15}$

35.)  $x = 3$ ; V: (3, -4)

36.) V = (1, -4) Roots at (-1, 0) & (3, 0); Symmetry  $x = 1$

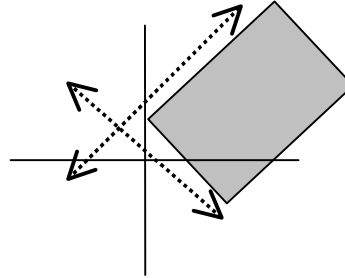


37.)  $y = 3/5x - 2/5$



38.)  $y = 2/3x - 4/3$

39.)  $y < -1/3x + 1/3$   
 $y < 3/2x + 4$



40.) A

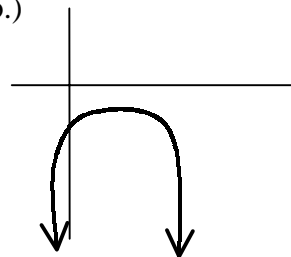
41.) B

42.) B

43.) a.) E

c.) V: (2, -1) Roots: (none)

b.)



44.) B

45.) B

46.) D

47.) C

48.) a.)  $y = 2x + 1$

b.) i.)  $m = 0$

ii.) undefined

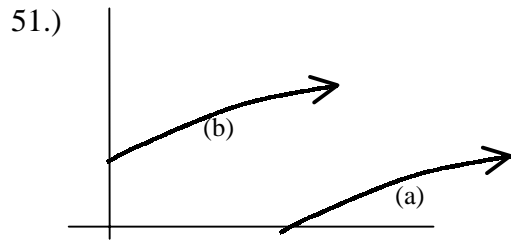
iii.)  $m = 3$

49.)  $y = -16/9$   $x = 16/5$

50.) a.) no solutions, parallel lines

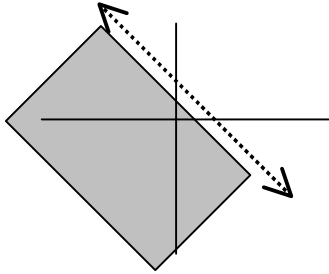
b.) one solution

c.) same line; infinite solutions



- 56.) a.)  $C(0) = \$35$   
 $C(1) = \$77$   
 $C(1.5) = \$98$   
 $C(2) = \$119$   
 $C(2.5) = \$140$   
 $C(3) = \$161$   
 $C(3.5) = 182$   
 $C(4) = 203$

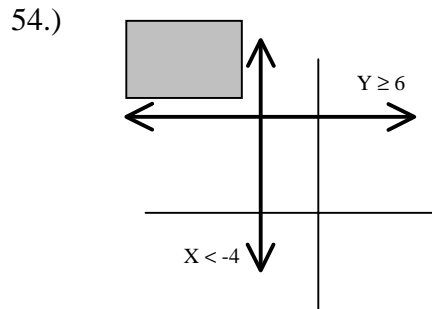
52.)  $y < -3x + 2$



- b.)  $C(t) = 35 + 42t$   
c.)  $C(6) = \$287$

53.)  $y = 2 ; x = 2/3$

Good luck everyone. If you have any questions contact your local CAD:



Chicago x3374  
Evanston x2356  
Wheeling x5509  
Wheaton/Elgin x4554

55.)  $y < 3x + 3$

