Worksheet-2

MTH-05: Elementary Algebra (Linear Equations / Inequalities in One Variable

First Name: .....

Last Name: .....

1) Give the numerical coefficient in the second term of $-x^4 - 2y + 5$.

a)-2

b)-1

c) 5

d)4

2) Simplify by combining like terms : j - 2j + 4j - 9j + 5j

a)-6j

b)-9j

c) -5j

d)-j

3) Simplify by combining like terms : 6t - 8 - (-4) - 7t - 6t

a)-5t - 12

b)3t -12

c) -7t - 4

d)3t - 4

4) Convert to an algebraic expression and simplify: if x stands for the unknown number : the sum of a number and six more than the number.

a)2x + 6

b)6x + 7

c) 6x

d)x + 6

5) Convert to an algebraic expression and simplify: if x stands for the unknown number : three times a number subtracted from eight times the same number.

a)8x

b)2x

c) 5x

d)5 - 3x

6) Which of the following is a linear equation ?

a) $x + 5 = 7x^2$

b) $3x^2 + 5x = 0$

c) $5x + 2 = 3x$

d) $2x + \frac{1}{x} = 2$

7) Solve : x - 22 = 5

a) x = 27

b) x = 17

c) $x = \frac{5}{22}$

d) x = -7

8) Solve : 12x = 48

a) x = 4

b) x = 36

c) $x = \frac{1}{4}$

d) x = 60

9) Solve : $\frac{z}{5} = -10$

a) 50

b) -50

c) -2

d) 2

10) Solve for x : -6.5 = 3.2 + x

a) -9.7

b) 9.7

c) -3.3

d) 3.3

11) Solve for x : $-\frac{3}{4}x = 5$

a) $\frac{23}{4}$

b) $\frac{20}{3}$

c) $-\frac{15}{4}$

d) $\frac{-20}{3}$

12) Solve for x : 7x - 5 = 9

a) $\frac{1}{9}$

b) 2

c) $\frac{5}{3}$

d) $\frac{3}{5}$

13) Solve : 5(2x + 3) - 9x = 10

a) x = 8

b) x = 5

c) x = -5

d) x = -8

14) Solve for x : 4(6x + 5) - 2(x - 5) = 0

a) $-\frac{15}{11}$

b) $\frac{3}{7}$

c) $\frac{3}{4}$

d) $\frac{5}{4}$

15) Solve for y : 4y - 6 = 1 - 2y

a) $\frac{7}{2}$

b) $\frac{2}{7}$

c) $-\frac{5}{2}$

d) $\frac{7}{6}$

16) Solve for x : 8 + 3x = -4(x - 2)

a) -1

b) -2

c) 0

d) 1

17) Solve for x : 7x - 5 = 3(x - 2) + 5 (1 - 3x)

a) $\frac{4}{19}$

b) $\frac{5}{19}$

c) $-\frac{6}{19}$

d) $\frac{19}{5}$

18) Find the solution : $\frac{T+8}{2} - \frac{T}{4} = \frac{T+19}{5}$

a) T = -3

b) T = -4

c) T = 4

d) T = 3

19) **If $x - \frac{(1 - x)}{2} = \frac{1}{4}$, then x =**

a) $-\frac{1}{2}$

b) $\frac{1}{3}$

c) $\frac{1}{2}$

d) $\frac{3}{2}$

20) **Solve : 0.5x + 1 = 0.4x + 0.2**

a) -8

b) -80

c) 8

d) 80

21) **One number is 11 more than another number. If their sum is 45, find the larger number.**

a) 27

b) 28

c) 17

d) 15

22) **One number is 4 times another number. If their sum is 35, find the two numbers.**

a) 20, 15

b) 10, 25

c) 7, 28

d) 15, 90

23) **Rick is 4 years older than Bob. Seven years ago sum of their ages was 14. What is Bob's age at present ?**

a) 6

b) 7

c) 5

d) 12

24) **A waitress has 3 times as many dimes as nickels, one more quarter than nickels that worth $2.65 in total. Find how many dimes she has.**

a) 5

b) 4

c) 9

d) 12

25) **Find three consecutive even integers, such that 4 times the middle integer is 4 more than the sum of first and third.**

a)8, 10, 12

b)0, 2, 4

c) 3, 5, 6

d)6, 8, 10

26) **Find the largest of three consecutive odd integers, such that 3 times the middle integer is 5 more than the sum of first and third.**

a)3

b)5

c) 7

d)9

27) **The width of a rectangle is 5 feet less than its length. Find its width if the perimeter is 54 feet.**

a)11 ft

b)16 ft

c) 34.5 ft

d)6 ft

28) **The length of rectangular piece of land is 9 cm more than three times its width. The perimeter is 418 cm. Find its dimensions.**

a)width = 50 cm, length = 190 cm

b)width = 50 cm, length = 109 cm

c) width = 33 cm, length = 108 cm

d)width = 50 cm, length = 159 cm

29) **Solve for P in A = P + Prt if A = 5, r = 2, and t = 6.**

a)$\frac{5}{3}$

b)$\frac{3}{5}$

c)$\frac{5}{13}$

d)$\frac{13}{5}$

30) **Given the equation p = 2L + 2w. Solve for L if p = 16 and w = 5.**

a)L = 3

b)L = 6

c) L = 16

d)L = 8

31) Solve for t in the equation R = C - Cxt.

a) $\frac{C - R}{Cx}$

b) $\frac{C - R}{C}$

c) $\frac{C + R}{Cx}$

d) $\frac{C - R}{R}$

32) Solve for y : 2x + my = -2x + ny

a) $\frac{4x}{n + m}$

b) $\frac{4x}{n - m}$

c) 0

d) $\frac{n + m}{4x}$

33) Solve 6x + 5y = 10 for y.

a) $y = 2 - \frac{6}{5}x$

b) $y = 2 + \frac{6}{5}x$

c) $y = -2 - \frac{6}{5}x$

d) $y = -2 + \frac{6}{5}$

34) Solve y = mx + c for c.

a) c = y - mx

b) c = y + mx

c) c = -y - mx

d) c = mx - y

35) Solve V = L b h for h.

a) $h = \frac{V}{bL}$

b) $h = \frac{bL}{V}$

c) $h = \frac{bV}{L}$

d) $h = \frac{LV}{b}$

36) Solve for m : $\frac{m + 15}{5} = \frac{m - 12}{14}$

a) 30

b) 10

c) -10

d) -30

37) Suppose a map is scaled so that 1 inch represents 30 miles. How many miles are represented by 2.5 inches on the map?

a) 12 miles

b) $\frac{1}{12}$ mile

c) 75 miles

d) $\frac{1}{75}$ mile

38) Solve : x + 3 > 8

a) $x > 5$

b) $x < -5$

c) $x < 5$

d) $x \leq -5$

39) Solve : 4x > -20

a) $x > 5$

b) $x < 5$

c) $x > -5$

d) $x < -5$

40) Solve : -9y ≥ -36

a) $y \leq -4$

b) $y \geq -4$

c) $y \leq 4$

d) $y > -4$

41) Solve : -2y > -18

a) $y > -9$

b) $y > 9$

c) $y \leq 9$

d) $y < 9$

42) Which of the following is a solution for 2x + 1 < 3x - 2 ?

a) $x < 3$

b) $x > 3$

c) $x < -3$

d) $x > -3$

43) Which of the following is a solution for $6x + 5 > 12x - 13$?

a) $x < 3$

b) $x > 3$

c) $x < -3$

d) $x > -3$

44) Solve the inequality :

$$\frac{x-4}{3} < \frac{3x}{4}$$

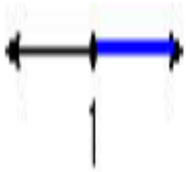
a) $x > \frac{16}{5}$

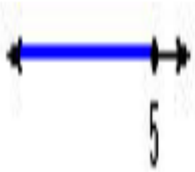
b) $x < \frac{16}{5}$

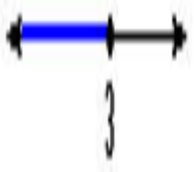
c) $x < -\frac{16}{5}$

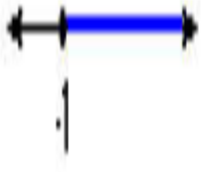
d) $x > -\frac{16}{5}$

45) Graph the inequality : $3x - 3 \leq 6$

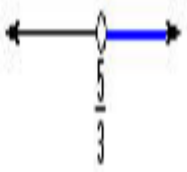
a) 

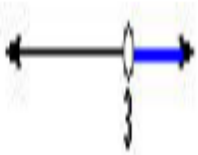
b) 

c) 

d) 

46) Graph the inequality : $3x - 5 > 4$

a) 

b) 

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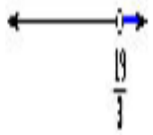
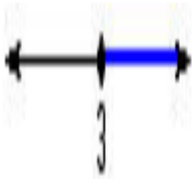
d) 

47) Graph the inequality : $4 - 7x \geq 10 - 5x$

a) 

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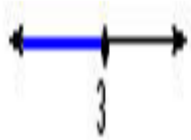
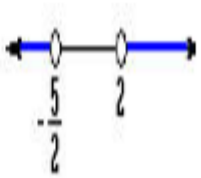
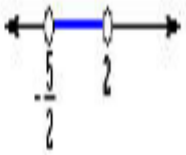
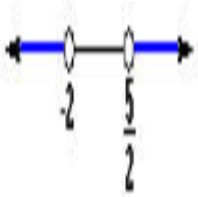
c) 

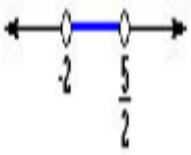
d)

48) Graph the inequality : $-2 < 3 - 2x < 7$

a) 

b) 

c) 

d) 

49) Change the statement to an inequality : 5 is more than -2.

a) $-2 > 5$

b) $-2 < 5$

c) $5 < -2$

d) $5 > 2$

50) The solutions of the equation $|3x - 5| = 4$ are

a) $6, 2$

b) $-3, \frac{1}{3}$

c) $3, \frac{1}{3}$

d) $3, 1$

Worksheet-2

MTH-05: Elementary Algebra (Linear Equations / Inequalities in One Variable

Answer Keys

1) a)-2

2) d)-j

3) c)-7t - 4

4) a)2x + 6

5) c)5x

6) c)$5x + 2 = 3x$

7) a)x = 27

8) a)x = 4

9) b)-50

10) a)-9.7

11) d)$\frac{-20}{3}$

12) b)2

13) c)x = -5

14) a) - $\frac{15}{11}$

15) d)$\frac{7}{6}$

16) c)0

17) a)$\frac{4}{19}$

18) b)T = -4

19) c)$\frac{1}{2}$

20) a)-8

21) b)28

22) c)7, 28

23) d)12

24) d)12

25) b)0, 2, 4

26) c)7

27) a)11 ft

28) d)width = 50 cm, length = 159 cm

29) c)$\frac{5}{13}$

30) a)L = 3

31) a)$\frac{C - R}{Cx}$

32) b)$\frac{4x}{n - m}$

33) a)y = 2 - $\frac{6}{5}$x

34) a)c = y - mx

35) a) $h = \frac{V}{bL}$

36) d) -30

37) c) 75 miles

38) a) $x > 5$

39) c) $x > -5$

40) c) $y \leq 4$

41) d) $y < 9$

42) b) $x > 3$

43) a) $x < 3$

44) d) $x > -\frac{16}{5}$

45) c)

46) b)

47) d)

48) d)

49) b) $-2 < 5$

50) c) $3 , \frac{1}{3}$