Name_____

The answers to all problems are in the back of the packet. To receive full credit for the assignment you must attach extra sheets of paper to the packet and show your work (write the steps to arrive at each answer).

Solve using the addition principle.

1) $-\frac{3}{4} + y = -\frac{1}{12}$ 1) _____

A) $\frac{1}{6}$ B) $\frac{1}{4}$ C) 2 D) $\frac{2}{3}$

Solve using the multiplication principle.

2) $-\frac{y}{5} = 21$ 2) _____

A) –100 B) –105 C) –26 D) 105

3) $-\frac{1}{4}x = 2$ 3) _____

A) –3 B) –2 C) –8 D) –1

Solve using the addition and multiplication principles together.

4) $\frac{2}{5}x - \frac{1}{3}x = 4$ 4) _____

A) 60 B) –120 C) –60 D) 120

5) $4x - (3x - 1) = 2$ 5) _____

A) 1 B) $-\frac{1}{7}$ C) – 1 D) $\frac{1}{7}$

6) $6(x + 3) - (6x + 18) = 0$ 6) _____

A) 0 B) All real numbers

C) No solution D) 3

7) $\frac{1}{4}(8x - 20) = \frac{1}{5}(25x - 10)$ 7) _____

A) 1 B) $\frac{1}{10}$ C) –1 D) –10

8) $-[7x + (9x + 4)] = 5 - (2x + 7)$ 8) _____

A) 2 B) $-\frac{4}{7}$ C) $-\frac{1}{7}$ D) $\frac{1}{2}$

Solve the problem.

9) A circle has a circumference of 52π meters. Find the radius, r, of the circle. ($C = 2\pi r$) 9) _____

A) 52 m B) 13 m C) 26 m D) 8 m

10) The number of daily calories K needed by a moderately active man who weighs w pounds, is h inches tall, and is y years old, can be estimated by the formula $K = 19.18w + 7h - 9.52y + 92.4$. Find the daily caloric need of a moderately active man weighing 203 lbs, who is 78 inches tall and 42 years old. 10) _____

A) 3537.38 B) 3352.58 C) 3947.3 D) 4132.1

Solve for the given letter.

11) $A = P(1 + nr)$ for r 11) _____

A) $r = \frac{P - A}{Pn}$ B) $r = \frac{A}{n}$ C) $r = \frac{A - P}{Pn}$ D) $r = \frac{Pn}{A - P}$

12) $\frac{PV}{T} = \frac{pv}{t}$ for P 12) _____

A) $P = \frac{pvV}{tT}$ B) $P = \frac{pvT}{tV}$ C) $P = \frac{tvT}{pV}$ D) $P = \frac{pv}{tTV}$

Solve.

13) The difference between two positive integers is 46. One integer is three times as great as the other. Find the integers. 13) _____

A) 46 and 69 B) 69 and 115 C) 23 and 69 D) 23 and 46

14) If Gloria received a 3 percent raise and is now making $24,720 a year, what was her salary before the raise? 14) _____

A) $25,000 B) $22,720 C) $23,720 D) $24,000

15) The following is a real estate commission on the selling price of a house. 15) _____

9% for the first $100,000, and
3% for the amount which exceeds $100,000

A realtor receives $16,530.00 for selling a house. What was the selling price?

A) $251,000 B) $451,000 C) $351,000 D) $7530

Choose the number that is a solution of the inequality.

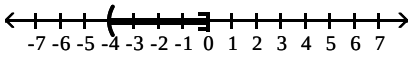
16) $f - 1 < -13$ 16) _____

A) –10 B) –9 C) –12 D) –13

17) $8n - 12 \leq 7n - 15$ 17) _____

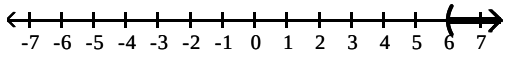
A) –2 B) –1 C) 0 D) –3

Write interval notation for the graph.

18) 

18) _____

A) [–4, 0] B) (–4, 0] C) [–4, 0) D) (–4, 0)

19) 

19) _____

A) (6, ∞) B) [6, ∞) C) (–∞, 6] D) (–∞, 6)

Write interval notation.

20) {x| x ≥ –7} 20) _____

A) [–7, ∞) B) (–∞, –7] C) (–∞, –7) D) (–7, ∞)

21) {x|–3 ≤ x ≤ 1} 21) _____

A) (–3, 1] B) (–3, 1) C) [–3, 1) D) [–3, 1]

22) {x|–6 ≤ x < –2} 22) _____

A) (–6, –2) B) (–6 ,–2] C) [–6, –2) D) [–6, –2]

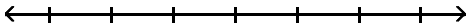
Solve.

23) 47 – (5x + 4) ≤ 3(x – 4) + 3x 23) _____

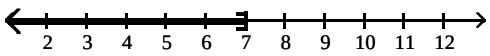
A) $\left(-\infty, \frac{63}{11}\right]$ B) [5, ∞) C) $\left[\frac{63}{11}, \infty\right)$ D) (–∞, 5]

Solve and graph. Write the result in interval notation.

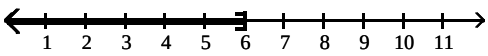
24) $\frac{6}{7}x \geq 6$ 24) _____



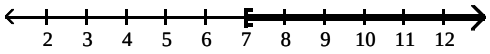
A) (∞, 7]



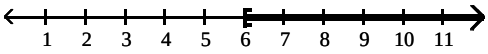
B) (∞, 6]



C) [7, ∞)



D) [6, ∞)



Solve.

25) In order for a chemical reaction to take place, the Fahrenheit temperature F of the reagents must be at least 107.83° F. At what Celsius temperatures C will the reaction occur? $\left(F = \frac{9}{5}C + 32\right)$ 25) _____

A) $\{C \mid C \geq 42.13°\}$

B) $\{C \mid C \geq 226.09°\}$

C) $\{C \mid C < 226.09°\}$

D) 9

E) $\{C \mid C \leq 42.13°\}$

26) A salesperson has two job offers. Company A offers a weekly salary of $300 plus commission of 12% of sales. Company B offers a weekly salary of $600 plus commission of 6% of sales. What is the amount of sales above which Company A's offer is the better of the two? 26) _____

A) $10,000 B) $2500 C) $5100 D) $5000

Find the distance between the points on a number line.

27) 13, –17 27) _____

A) –30 B) 30 C) 4 D) –4

Solve.

28) $|5x - 2| = |4x - 11|$ 28) _____

A) $\left\{-9, \frac{13}{9}\right\}$ B) $\{13, 1\}$ C) $\{-1, 13\}$ D) $\{-13, 1\}$

29) $|7x + 6| = |1 - 6x|$ 29) _____

A) $\left\{\frac{7}{13}, 1\right\}$ B) $\left\{-\frac{7}{13}, 1\right\}$ C) $\left\{-5, -\frac{7}{13}\right\}$ D) $\left\{-\frac{5}{13}, -7\right\}$

Solve the absolute value inequality. Write the solution set using interval notation.

30) $|7x - 6| \geq 2$ 30) _____

A) $\left[\frac{4}{7}, \frac{8}{7}\right]$ B) $\left(-\infty, \frac{4}{7}\right] \cup \left[\frac{8}{7}, \infty\right)$

C) $\left(-\infty, -\frac{8}{7}\right] \cup [2, \infty)$ D) $\left[\frac{8}{7}, \infty\right)$

31) $|8x + 3| < 16$ 31) _____

A) $\left(-\frac{19}{8}, \frac{13}{8}\right)$ B) $\left(-\infty, -\frac{19}{8}\right)$

C) $(-\infty, 8)$ D) $\left(-\infty, -\frac{19}{8}\right) \cup \left(\frac{13}{8}, \infty\right)$

32) $4|x + 2| \geq 4$ 32) _____

A) $(-\infty, -1] \cup [-3, \infty)$ B) $(-1, -3)$

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

33) $\left|\frac{x - 1}{2}\right| \geq 7$ 33) _____

A) [–13, 15] B) $(-\infty, -13] \cap [15, \infty)$

C) $(-\infty, -13] \cup [15, \infty)$ D) (–13, 15)

Solve.

34) $|x| = 6$ 34) _____

A) {6} B) {36} C) {6, –6} D) {–6}

35) $|7x - 2| = 5$ 35) _____

A) $\left\{-\frac{3}{7}, 1\right\}$ B) $\left\{-1, \frac{3}{7}\right\}$ C) $\{1, 6\}$ D) $\{-6, -1\}$

36) $\left|\frac{5x + 2}{3}\right| = 3$ 36) _____

A) $\left\{\frac{7}{5}, -\frac{11}{5}\right\}$ B) $\emptyset$ C) $\left\{\frac{11}{5}\right\}$ D) $\left\{-\frac{7}{5}\right\}$

37) $|x| = -4$ 37) _____

A) {4, –4} B) {–4} C) $\emptyset$ D) {4}

Solve using the addition principle.

38) $-15 + z = -84$ 38) _____

Solve using the multiplication principle.

39) $-60 = -5n$ 39) _____

40) $\frac{5}{4}x = \frac{5}{20}$ 40) _____

Solve using the addition and multiplication principles together.

41) $9y + 4 = 7 - 3y$ 41) _____

42) $\frac{1}{3}a - \frac{1}{3} = -6$ 42) _____

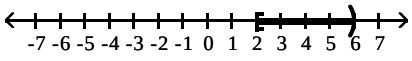
43) $13(x - 52) = 26$ 43) _____

44) $7x + 7(-2x - 3) = -22 - 6x$ 44) _____

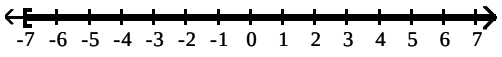
Solve for the given letter.

45) $S = 2\pi rh + 2\pi r^2$ for h 45) _____

Write interval notation for the graph.

46) 

46) _____

47) 

47) _____

Write interval notation.

48) $\{x \mid x > 5\}$ 48) _____

49) $\{x|-5 < x < -1\}$ 49) _____

Solve.

50) $2x + 4 < 18$ 50) _____

Provide an appropriate response..

51) Which one of these is not a linear equation? 51) _____

a) $6y^2 - 3y + 1 = 0$ b) $0.07x - 0.09x = 0.57$

c) $5t - 11t = -6t$ d) $7x + 9(x - 2) = -5x$

Find the distance between the points on a number line.

52) $\frac{2}{7}, \frac{1}{5}$ 52) _____

Solve.

53) $\left|\frac{2}{3} + 3x\right| = \frac{2}{7}$ 53) _____

54) $|3x - 5| + 1 = 4$ 54) _____

Answer Key
Testname: 11FALL_BCCM203_CH1_PROBS

1) D
Objective: (1.1) b: Solve Equation by Addition Principle
2) B
Objective: (1.1) c: Solve Equation by Multiplication Principle
3) C
Objective: (1.1) c: Solve Equation by Multiplication Principle
4) A
Objective: (1.1) d: Solve Equation by Both Principles (Fractions)
5) A
Objective: (1.1) d: Solve Equation by Both Principles (Remove Parentheses)
6) B
Objective: (1.1) d: Solve Equation by Both Principles (Remove Parentheses)
7) C
Objective: (1.1) d: Solve Equation by Both Principles (Remove Parentheses)
8) C
Objective: (1.1) d: Solve Equation by Both Principles (Remove Parentheses)
9) C
Objective: (1.2) a: Solve Apps: Formulas
10) D
Objective: (1.2) a: Solve Apps: Formulas
11) C
Objective: (1.2) a: Solve Formula for Specified Letter I
12) B
Objective: (1.2) a: Solve Formula for Specified Letter II
13) C
Objective: (1.3) a: Solve Apps: Numbers
14) D
Objective: (1.3) a: Solve Apps: Percentages
15) C
Objective: (1.3) a: Solve Apps: Percentages
16) D
Objective: (1.4) a: Choose Number that is Solution of Inequality
17) D
Objective: (1.4) a: Choose Number that is Solution of Inequality
18) B
Objective: (1.4) b: Write Graph in Interval Notation
19) A
Objective: (1.4) b: Write Graph in Interval Notation
20) A
Objective: (1.4) b: Write Set in Interval Notation
21) D
Objective: (1.4) b: Write Set in Interval Notation
22) C
Objective: (1.4) b: Write Set in Interval Notation
23) B
Objective: (1.4) c: Solve Inequality II

24) C
Objective: (1.4) c: Solve and Graph Inequality

25) A
Objective: (1.4) d: Solve Apps: Inequalities

26) D
Objective: (1.4) d: Solve Apps: Inequalities

27) B
Objective: (1.6) b: Find Distance Between Two Points on Number Line

28) A
Objective: (1.6) d: Solve Equation with Two Absolute Values

29) D
Objective: (1.6) d: Solve Equation with Two Absolute Values

30) B
Objective: (1.6) e: Solve Absolute–Value Inequality

31) A
Objective: (1.6) e: Solve Absolute–Value Inequality

32) D
Objective: (1.6) e: Solve Absolute–Value Inequality

33) C
Objective: (1.6) e: Solve Absolute–Value Inequality

34) C
Objective: (16.8) a: Solve Absolute–Value Equation

35) A
Objective: (16.8) a: Solve Absolute–Value Equation

36) A
Objective: (16.8) a: Solve Absolute–Value Equation

37) C
Objective: (16.8) a: Solve Absolute–Value Equation I

38) –69
Objective: (1.1) b: Solve Equation by Addition Principle

39) 12
Objective: (1.1) c: Solve Equation by Multiplication Principle

40) $\frac{1}{5}$
Objective: (1.1) c: Solve Equation by Multiplication Principle

41) $\frac{1}{4}$
Objective: (1.1) d: Solve Basic Equation by Both Principles

42) –17
Objective: (1.1) d: Solve Equation by Both Principles (Fractions)

43) 54
Objective: (1.1) d: Solve Equation by Both Principles (Remove Parentheses)

44) 1
Objective: (1.1) d: Solve Equation by Both Principles (Remove Parentheses)

45) $h = \frac{S - 2\pi r^2}{2\pi r}$

Objective: (1.2) a: Solve Formula for Specified Letter I

46) [2, 6)

Objective: (1.4) b: Write Graph in Interval Notation

47) [–7, ∞)

Objective: (1.4) b: Write Graph in Interval Notation

48) (5, ∞)

Objective: (1.4) b: Write Set in Interval Notation

49) (–5, –1)

Objective: (1.4) b: Write Set in Interval Notation

50) (–∞, 7)

Objective: (1.4) c: Solve Inequality I

51) (a) is not a linear equation.

Objective: (1.6) *Know Concepts: Linear Equations and Inequalities

52) $\frac{3}{35}$

Objective: (1.6) b: Find Distance Between Two Points on Number Line

53) $\left\{-\frac{20}{63}, -\frac{8}{63}\right\}$

Objective: (16.8) a: Solve Absolute–Value Equation

54) $\left\{\frac{2}{3}, \frac{8}{3}\right\}$

Objective: (16.8) a: Solve Absolute–Value Equation II