Algebra 1 Semester 1 Exam Review

Short Answer

1 $\dfrac{4}{7}b = 16$

2 $\dfrac{3}{8}b = 27$

3 $-\dfrac{2}{5}b = -4$

4 $-16 = 10 - 2y$

5 $30 = 9 - 3y$

6 $65 = 20 - 3y$

7 $10 = 6p - 4 - 5p$

8 $-12 = 7p - 4 - 5p$

9 $-50 = 10p - 2 + 2p$

10 $6x + 3 - 5x = 1 + x + 12$

11 $16x + 3 - 5x = 1 + 11x + 2$

12 solve $4x - y = p$ for **x**

13 solve $3x - t = m$ for **x**

14 solve $-2x + t = m$ for **x**

15 Car A travels 300 miles in 4 hours
Car B travels 650 miles in 5 hours
Car C travels 800 miles in 8 hours. Which car travels the fastest?

16 Car A travels 300 miles in 7 hours
Car B travels 650 miles in 15 hours
Car C travels 800 miles in 12 hours. Which car travels the fastest?

17 Car A travels 1200 miles in 17 hours
Car B travels 950 miles in 19 hours
Car C travels 1800 miles in 32 hours. Which car travels the fastest?

18 A car is driving 40 mi/h. What is the speed of the car in feet per minute?
(1 mile=5280 ft and 1 hour=60 min).

19 A car is driving 30 mi/h. What is the speed of the car in feet per minute?
(1 mile=5280 ft and 1 hour=60 min).

20 A car is driving 62 mi/h. What is the speed of the car in feet per minute?
(1 mile=5280 ft and 1 hour=60 min).

21 A factory worker can package 200 games in 18 minutes. How many games can he package per minute?

22 A factory worker can package 260 games in 10 minutes. How many games can he package per minute?

23 A factory worker can package 315 games in 45 minutes. How many games can he package per minute?

24 School guidelines require that there must be at least 4 chapterones for every 13 students going on a school field trip. If there are 80 students, how many chaperones do you need?

25 School guidelines require that there must be at least 3 chapterones for every 18 students going on a school field trip. If there are 250 students, how many chaperones do you need?

26 School guidelines require that there must be at least 2 chapterones for every 30 students going on a school field trip. If there are 75 students, how many chaperones do you need?

27 solve $\dfrac{x-2}{5} = \dfrac{3}{8}$

28 solve $\dfrac{x-4}{6} = \dfrac{2}{4}$

29 solve $\dfrac{x+3}{4} = \dfrac{6}{7}$

30 Draw a number line that correctly show the statement: ***x is positive***

31 Draw a number line that correctly show the statement: ***x is negative***

32 Write an inequality AND draw a number line that correctly show the statement: ***x is at least 3***

33 Write an inequality AND draw a number line that correctly show the statement: ***The capacity of the tank is 50 gallons***

34 Write and inequality AND draw a number line that correctly show the statement: ***You must be at least 16 to drive.***

35 Solve $\dfrac{m}{-2} \le 8$

36 Solve $\dfrac{m}{-5} \le 10$

37 Solve $\dfrac{m}{-3} + 7 \le 1$

38 Suppose you had *d* dollars in your bank account. You spent $13 but have at least $30 left. How much money did you have initially? Write and solve an inequality that represents this situation.

39 Suppose you had *d* dollars in your bank account. You spent $17 but have at least $15 left. How much money did you have initially? Write and solve an inequality that represents this situation.

40 Suppose you had *d* dollars in your bank account. You deposited $12 but have no more than $50 now. How much money did you have initially? Write and solve an inequality that represents this situation.

41 Solve $2(x+4) > 22$

42 Solve $7(x-5) < 28$

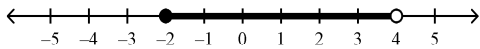**43** Solve $3(4x - 2) < 42$

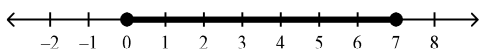**44** Write a compound inequality for the graph below.
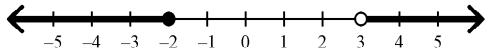
45 Write a compound inequality for the graph below.
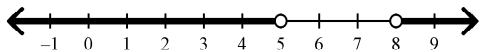
46 Write a compound inequality for the graph below.

47 Write a compound inequality for the graph below.

48 A cruise ship can carry up to 2000 passengers. It will only embark on a cruise if at least 1200 passengers buy tickets. Write a compound inequality to show the possible number of passengers the cruise ship can have on its voyage.

49 A cruise ship can carry up to 800 passengers. It will only embark on a cruise if at least 350 passengers buy tickets. Write a compound inequality to show the possible number of passengers the cruise ship can have on its voyage.

50 Solve the compound inequality
$3x + 6 > 12$ or $-4x + 5 > 17$

51 Solve the compound inequality $5x - 3 > 7$ or $4x - 6 < -10$

52 Solve the compound inequality
$5x - 7 \le -3$ or $3x - 2 \ge 13$

53 Solve the absolute value equation
$|n| + 3 = 7$

54 Solve the absolute value equation
$|n| = -10$

55 Solve the absolute value equation
$|n| + 5 = 2$

56 Solve the absolute value equation
$|4x + 1| - 2 = 5$

57 Solve the absolute value equation
$2|x + 4| = 8$

58 Give the domain and range of the relation. Tell whether it is a function or not.

x	y
0	7
3	2
-2	5
3	8

59 Give the domain and range of the relation. Tell whether it is a function or not.

x	y
-2	1
-4	1
6	1
8	1

60 For $f(x) = -6x - 6$ for $f(3)$

61 For $f(x) = 2x + 5$ for $f(-4)$

62 For $f(x) = 2x + 5$ for $f(7)$

63 Write a rule for the situation and decide if it is discrete or continuous.
A store sells apples for $2 each. WHat is the cost, **C**, of **a** apples?

64 Write a rule for the situation and decide if it is discrete or continuous.
Candy costs $3.99 per pound. what is the total cost, **C,** for **x** lbs of candy?

65 The function $f(x) = 34x$ represents how many push-ups Sally can do in x minutes. How many can she do in 3 minutes?

66 The function $f(x) = 12x$ represents how many push-ups Sally can do in x minutes. How many can she do in 3 minutes?

67 What vocabulary words can we use for x-values of a function?

68 What vocabulary words can we use for y-values of a function?
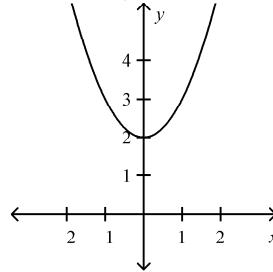
69 Write a function for the table.

x	y
1	1
2	4
3	9
4	16

70 Write a function for the table.

x	y
0	-2
1	1
2	4
3	7

71 Write a function for the table.

x	y
0	1
1	2
2	5
3	10

72 Is the graph a Nonlinear Function, Linear Function, or NOT a Function?

73 Is the graph a Nonlinear Function, Linear Function, or NOT a Function?

74 Is the graph a Nonlinear Function, Linear Function, or NOT a Function?