Exam 1 Sections 2.1–2.6 Extra Practice
Spring 2011 Math 084 V02
No book/No Notes/No calculator/No Phone/No iPod/55 Minutes
Work of your thought process must be shown.

Name_____

Solve the problem.

1) Four times a number added to 7 times the number equals 55. Find the number.

Use the given information to write an equation. Let x represent the number described in the exercise. Then solve the equation and find the number.

2) Four times a number added to 8 times the number equals 48. Find the number.

3) When 2 times a number is subtracted from 7 times the number, the result is 50. Find the number.

Let x represent the number. Use the given conditions to write an equation. Solve the equation and find the number

4) If 4 times a number is added to –5, the result is equal to 9 times the number. Find the number.

5) When 5 times a number is subtracted from 7 times the number, the result is 18. Find the number.

Solve the problem.

6) A promotional deal for long distance phone service charges a $15 basic fee plus $0.05 per minute for all calls. If Joe's phone bill was $56 under this promotional deal, how many minutes of phone calls did he make? Round to the nearest integer, if necessary.

7) A promotional deal for long distance phone service charges a $15 basic fee plus $0.05 per minute for all calls. If Joe's phone bill was $63 under this promotional deal, how many minutes of phone calls did he make? Round to the nearest integer, if necessary.

8) There are 24 more sophomores than juniors in an algebra class. If there are 112 students in this class, find the number of sophomores and the number of juniors in the class.

9) There are 12 more sophomores than juniors in an algebra class. If there are 40 students in this class, find the number of sophomores and the number of juniors in the class.

10) A car rental agency advertised renting a luxury, full–size car for $39.95 per day and $0.19 per mile. If you rent this car for 5 days, how many whole miles can you drive if you only have $200 to spend?

11) A car rental agency advertised renting a luxury, full–size car for $24.95 per day and $0.19 per mile. If you rent this car for 4 days, how many whole miles can you drive if you only have $200 to spend?

12) Claire has received scores of 85, 88, 87, and 95 on her algebra tests. What score must she receive on the fifth test to have an overall test score average of at least 90?

13) Claire has received scores of 85, 88, 87, and 80 on her algebra tests. What score must she receive on the fifth test to have an overall test score average of at least 82?

14) The length of a rectangle is 28 feet. For what widths is the perimeter less than 82 feet?

15) The length of a rectangle is 40 feet. For what widths is the perimeter less than 108 feet?

16) Claire has received scores of 85, 88, 87, and 75 on her algebra tests. What score must she receive on the fifth test to have an overall test score average of at least 83?

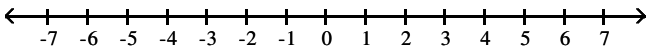
17) Claire has received scores of 85, 88, 87, and 85 on her algebra tests. What score must she receive on the fifth test to have an overall test score average of at least 88?

18) The length of a rectangle is 22 feet. For what widths is the perimeter less than 72 feet?

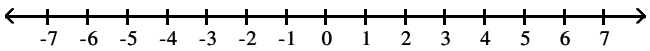
19) The length of a rectangle is 22 feet. For what widths is the perimeter less than 68 feet?

Express the solution set of the inequality in interval notation and graph the interval.

20) $x > 5$

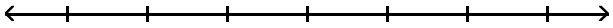


21) $x > 2$

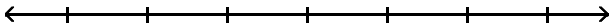


Solve the inequality and graph the solution set on a number line.

22) $\frac{x}{7} \leq -2$

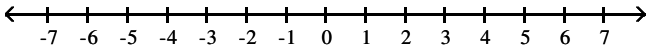


23) $\frac{x}{5} \leq -3$

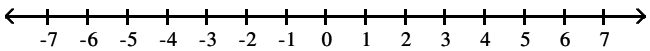


Express the solution set of the inequality in interval notation and graph the interval.

24) $x > 4$

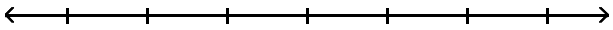


25) $x \leq 2$

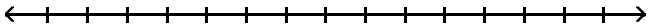


Solve the inequality and graph the solution set on a number line.

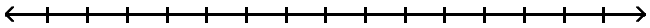
26) $\frac{y}{7} \leq -5$



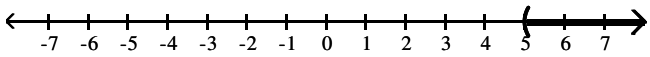
27) $30 - 5x \geq -10$



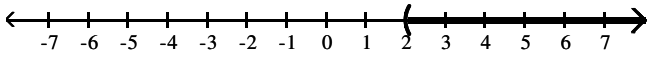
28) $7x - 9 < 8(x - 2)$



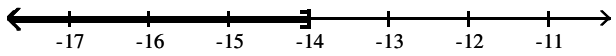
1) 5
2) 4x + 8x = 48; 4
3) 7x – 2x = 50; 10
4) 4x + (–5) = 9x; –1
5) 7x – 5x = 18; 9
6) 820 min
7) 960 min
8) 68 sophomores; 44 juniors
9) 26 sophomores; 14 juniors
10) 1 miles
11) 527 miles
12) at least 95
13) at least 70
14) widths less than 13 ft
15) widths less than 14 ft
16) at least 80
17) at least 95
18) widths less than 14 ft
19) widths less than 12 ft
20) $(5, \infty)$



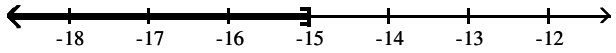
21) $(2, \infty)$



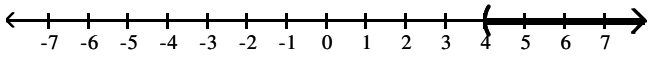
22) $(-\infty, -14]$



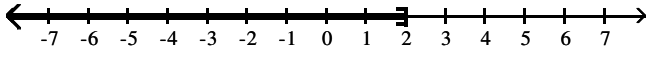
23) $(-\infty, -15]$



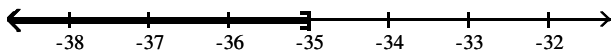
24) $(4, \infty)$



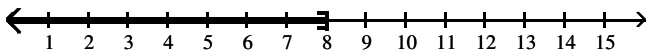
25) $(-\infty, 2]$



26) $(-\infty, -35]$



27) $(-\infty, 8]$



28) $(7, \infty)$