Exam 1 Chapter 2 Preparation 2.1 to 2.6
Winter 2010 V01a

Name_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve the equation.

1) $-4x - 3 = 21$ 1) _____

2) $3x + 10 = -8x + 6$ 2) _____

3) $-3x + 4(-3x - 3) = -21 - 6x$ 3) _____

4) $4(2y - 4) = 7(y + 4)$ 4) _____

5) $\frac{1}{6}x = -3$ 5) _____

6) $\frac{x}{5} + \frac{6}{5} = \frac{x}{7} + \frac{8}{7}$ 6) _____

Solve the problem.

7) In one state, speeding fines are determined by the formula $F = 8(x - 60) + 50$, where F is the cost, in dollars, of the fine if a person is caught driving x miles per hour. If the fine comes to $106, how fast was the person driving? 7) _____

Solve the formula for the specified variable.

8) $V = lwh$ for l 8) _____

9) $w = \frac{P - 2l}{2}$ for l 9) _____

Solve the problem.

10) What is 5% of 90? 10) _____

11) 2.7 is 54% of what? 11) _____

12) 0.3 is what percent of 2.5 ? 12) _____

13) Four times a number added to 7 times the number equals 33. Find the number. 13) _____

14) The president of a certain university makes three times as much money as one of the department heads. If the total of their salaries is $180,000, find each worker's salary. 14) _____

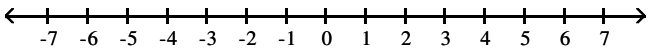
15) A promotional deal for long distance phone service charges a $15 basic fee plus $0.05 per minute for all calls. If Joe's phone bill was $70 under this promotional deal, how many minutes of phone calls did he make? Round to the nearest integer, if necessary. 15) _____

16) There are 16 more sophomores than juniors in an algebra class. If there are 102 students in this class, find the number of sophomores and the number of juniors in the class. 16) _____

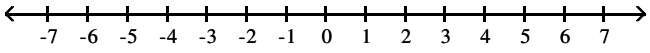
17) Sales at a local ice cream shop went up 60% in 5 years. If 49,000 ice cream cones were sold in the current year, find the number of ice cream cones sold 5 years ago. (Round to the nearest integer, if necessary.) 17) _____

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

18) $x > -5$ 18) _____

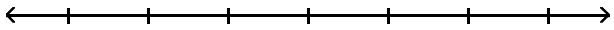


19) $x \leq -4$ 19) _____

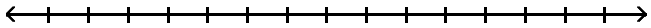


Solve the inequality and graph the solution set on a number line.

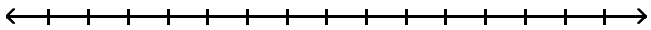
20) $\frac{x}{7} \leq -2$ 20) _____



21) $24 - 4x \geq -20$ 21) _____



22) $8x + 6 < 9(x + 1)$ 22) _____

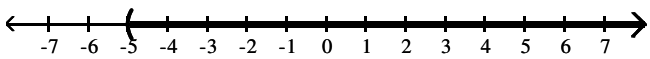


Solve the problem.

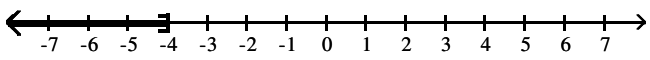
23) Claire has received scores of 85, 88, 87, and 95 on her algebra tests. What score must she receive on the fifth test to have an overall test score average of at least 90? 23) _____

24) The length of a rectangle is 38 feet. For what widths is the perimeter less than 98 feet? 24) _____

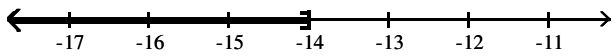
1) {–6}
2) $\left\{-\frac{4}{11}\right\}$
3) {1}
4) {44}
5) {–18}
6) {–1}
7) 67 mph
8) $l = \frac{V}{wh}$
9) $l = \frac{P - 2w}{2}$
10) 4.5
11) 5
12) 12%
13) 3
14) president's salary = $135,000; department head's salary = $45,000
15) 1100 min
16) 59 sophomores; 43 juniors
17) 30,625 ice cream cones
18) (–5, ∞)



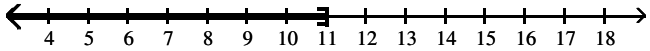
19) (–∞, –4]



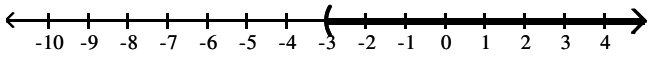
20) (–∞, –14]



21) (–∞, 11]



22) (–3, ∞)



23) at least 95
24) widths less than 11 ft