

Chapter Review/Test

Concepts and Skills

Solve each equation using the concept of balancing.

Write all fraction answers in simplest form.

#5
2, 6, 8, 10
12, 16, 20, 22

1 $x + 8 = 27$

2 $\frac{10}{11} = a + \frac{4}{11}$

3 $f + 3.8 = 9.2$

4 $42 = y - 14$

5 $k - \frac{7}{8} = 2\frac{11}{24}$

6 $n - 2.7 = 13.4$

7 $6h = 84$

8 $75.6 = 7.2r$

9 $\frac{4}{5}p = 10$

10 $9 \cdot \frac{3}{5} = \frac{8}{11}w$

Represent the solution set of each inequality on a number line.

11 $b < 7$

12 $b > 13$

13 $m \geq 24$

14 $m \leq 38$

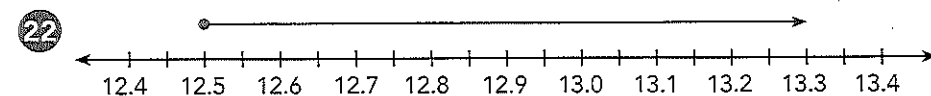
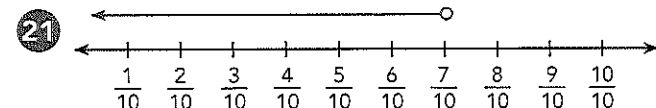
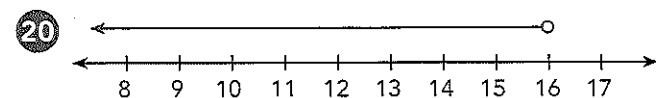
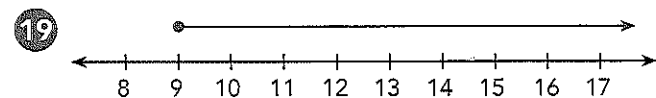
15 $g > \frac{2}{3}$

16 $g \leq 5\frac{3}{5}$

17 $z < 7.1$

18 $z \geq 10.4$

Write an inequality for each number line.



Write an equation for each of the following.

- 23 Patrick is x years old. His brother is 9 years older than he is. If his brother is y years old, express y in terms of x .
- 24 The length of a house is three times its width. The width of the house is f yards. If the perimeter of the house is h yards, express h in terms of f .

Problem Solving

Use an algebraic equation or algebraic inequality to solve. Show your work.

- 25 Mrs. Lewis makes some orange juice. After making another 850 milliliters of juice, she now has 4,880 milliliters of orange juice. How much orange juice did Mrs. Lewis make at first?
- 26 Adrian has 5 times as many stickers as Derrick. If Adrian has 325 stickers, how many stickers does Derrick have?
- 27 A printer prints fewer than 18 pages per minute. What is the maximum number of pages the printer can print in 7 minutes?
- 28 If a number is multiplied by 4, it gives the same result as $\frac{2}{7}$ of 504. What is the number?
- 29 Keane has a total of 96 counters. Some are green and some are red. The ratio of the number of red counters to the number of green counters is 3 : 5. How many more green counters than red counters are there?
- 30 A grocer bought 8 boxes of apples. Each box contains 35 apples and less than 40% of the apples in each box are green apples. Find the greatest possible number of green apples in all the 8 boxes.
- 31 A rectangular lunch tray has a length of x centimeters and a width of 15 cm. The tray's length is at least 20% greater than its width.
- a) Write an inequality to represent this situation.
- b) Suppose x is a whole number. Find the least possible perimeter, and the least possible area of the lunch tray.

