Master Alg 1 Chapter 2 Review 1 Name KEY per

Solve and CHECK

. $\frac{y}{4} - 3 = -4$

$y = -4$

Solve and CHECK

2. $-\frac{3d}{4} + 5 = 11$

$d = -8$

Solve and CHECK

3. $7(x - 5) = 42$

$x = 11$

Solve and CHECK

4. $-4b - 5 + 2b = 10$

$b = -\frac{15}{2}$ or -7.5

Write and solve an equation.

5. Online concert tickets cost $37 each, plus a service charge of $8.50 per ticket. The Website also charges a transaction fee of $14.99 for the purchase. You paid $242.49. How many tickets did you buy?

You bought 5 tickets

Solve, then label as *no solution* or *identity* if appropriate.

6. $3(h - 4) = -\frac{1}{2}(24 - 6h)$

Identity

7. A train makes a trip at 65 mph. A plane traveling 130 mph makes the same trip in 3 fewer hours. Write and solve an equation to find the distance of the trip.

The trip is 390 miles.

Solve the equation for x

8. $\frac{x+r}{t} + 1 = 0$

$x = -r - t$

Solve, round to nearest tenth, if needed.

9. What is the width of a rectangle with length 5.5cm and area 220 cm^2?

The width is 40 cm.

Solve, round to nearest tenth, if needed.

10. A triangle has height 15 in. and area of 120 in^2. What is the length of its base?

The base is 16 in.

Convert the given amount to the given unit.

11. 2.25 mi; yd

3960 yd

12. A gerbil eats about $\frac{1}{4}$ oz of food per day. About how many pounds of food will he eat in a year?

The gerbil will eat about 5.7 lb of food in a year.

13. If a baseball travels 90 mph, how many seconds does it take to travel 60 ft?

It takes the baseball .45 seconds to travel 60 ft.

Solve the proportion.

14. $\frac{3}{7} = \frac{9}{x}$

$3x = 7(9)$

$3x = 63$

$x = 21$

Solve the proportion.

15. $\frac{b+3}{7} = \frac{b-3}{6}$

$6(b+3) = 7(b-3)$

$6b + 18 = 7b - 21$

$39 = b$

16. An airplane has a wingspan of 25 ft and a length of 20 ft. You are designing a model of the airplane with a wingspan of 15 in. What will the length of your model be?

The length of your model will be 12 in.

17. What percent of 37 is 111?

300%

18. What is 72% of 150?

108

19. 60% of what number is 102?

170

20. A gardener expects that 75% of the seeds she plants will produce plants. She wants 45 plants. How many seeds should she plant?

She should plant 60 seeds.

21. Tell whether each percent change is an increase or a decrease. Then find the percent change. Round to the nearest percent.

Original amount: 873
New amount: 781

Decrease of about 11%.

22. In 1970, the US population was about 205 million people. In 2007, it was about 301 million. What was the percent increase?

47%

23. This morning the temperature was 38°F. This afternoon it is 57°F. Did the temperature increase by 50%? Explain.

Yes

Extra space to explain #64: # 23

The temperature increased by 19°, which is half the original temp of 38°.

Scrambled answers: ~~47, 21, 11, -4, 40, 300, 11, identity, ~0.45, 108, -8, x=-t-r, 16, ~6, 39, 60, -15/2, 390, 12.5, 170, yes, 3960~~