Mastery Alg 1 **Chapter 2 Review 1** Name_____per____

Solve and CHECK 1. $\frac{y}{4} - 3 = -4$	Solve and CHECK 2. $-\frac{3d}{4} + 5 = 11$	Solve and CHECK 3. $7(x - 5) = 42$
Solve and CHECK 4. $-4b - 5 + 2b = 10$	**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?	**Solve, then label as *no solution* or *identity* if appropriate.** 6. $3(h - 4) = -\frac{1}{2}(24 - 6h)$
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.	**Solve the equation for x** 8. $\frac{x+r}{t} + 1 = 0$	**Solve, round to nearest tenth, if needed**. 9. What is the width of a rectangle with length 5.5cm and area 220 cm^2?
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?	**Convert the given amount to the given unit**. 11. 2.25 mi; 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?

13. If a baseball travels 90 mph, how many seconds does it take to travel 60 ft?	**Solve the proportion**. 14. $\frac{3}{7} = \frac{9}{x}$	**Solve the proportion**. 15. $\frac{b+3}{7} = \frac{b-3}{6}$
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?	17. What percent of 37 is 111?	18. What is 72% of 150?
19. 60% of what number is 102?	20. A gardener expects that 75% of the seeds she plants will produce plants. She wants 45 plants. How many seeds should she plant?	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
22. In 1970, the US population was about 205 million people. In 2007, it was about 301 million. What was the percent increase?	23. This morning the temperature was 38°F. This afternoon it is 57°F. Did the temperature increase by 50%? Explain.	Extra space to explain #23:

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