

Algebra 1 Week 5 Tuesday W-Up

Solve completely, showing all steps.

Skill 1:

1.  $8 - 2(a - 4) = -(2a - 4)$

Write and solve a proportion.

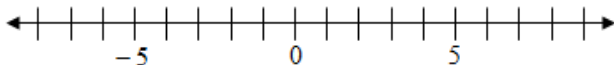
Skill 2:

2. A small bag of Skittles has 30 pieces of candy; 7 of them are orange. Alex has a huge candy jar filled with 247 Skittles. How many should be orange?

3. What percent of 12 is 8?    4. What is 35% of 185?    5. 20% of what number is 4.2?

6. Graph the following numbers appropriately on a number line and label them:

- A)  $-3$       B)  $\frac{1}{2}$       C)  $2$       D)  $-2.8$



7. If the sales flier reads 23% off, what percent of the original price are you paying?

8. If I paid 59% of my bill, what percent of the original do I have left to pay?

## Percent Change

A coat is on sale. The original price of the coat is \$82. The sale price is \$74.50. What is the discount expressed as a percent change?

$$(\text{percent change} = \frac{\text{amount of increase / decrease}}{\text{original amount}})$$

The average monthly precipitation for Chicago, Illinois, peaks in June at 4.1 inches. The average monthly precipitation in December is 2.8. What is the percent decrease from June to December?

A store buys an electric guitar for \$295. The store then marks up the price of the guitar to \$340. What is the markup expressed as a percent change?

In one year, the toll for passenger cars to use a tunnel rose from \$3 to \$3.50. What was the percent increase?

put work and answers on notebook paper

HW: p 148 (7-15odd, 16,17,19, 29, 37)

**Practice and Problem-Solving Exercises**  MATHEMATICAL PRACTICES

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

 See Problems 1 and 2.

7. original amount: 12  
new amount: 18

~~original amount: 12  
new amount: 18~~

9. original amount: 15  
new amount: 14

~~original amount: 12  
new amount: 18~~

11. original amount: 40.2  
new amount: 38.6

~~original amount: 15  
new amount: 14~~

13. original amount: 14,500  
new amount: 22,320

~~original amount: 40.2  
new amount: 38.6~~

15. original amount: 1325.60  
new amount: 1685.60

~~original amount: 14,500  
new amount: 22,320~~

17. **Climate** On June 1, 2007, there were about 18.75 h of daylight in Anchorage, Alaska. On November 1, 2007, there were about 8.5 h of daylight. What was the percent decrease?

Find the percent error in each estimation. Round to the nearest percent.

 See Problem 3.

19. You estimate that your school is about 45 ft tall. Your school is actually 52 ft tall.

Find the percent change. Round to the nearest percent.

25. ~~1 to 2~~


26. ~~1 to 4~~

27. ~~1 to 3~~

28. ~~1 to 2~~

29. \$168.45 to \$234.56

30. ~~1 to 2~~

 **37. Error Analysis** A student is trying to find the percent of change when an amount increases from 12 to 18, as shown. Describe and correct the student's error.

$$\begin{aligned}
 & \frac{\text{new amount} - \text{original amount}}{\text{original amount}} \\
 & = \frac{18 - 12}{18} \\
 & = \frac{6}{18} \approx 0.33, \text{ or } 33\%
 \end{aligned}$$

*(The above calculation is crossed out with a large red X, indicating it is incorrect.)*

**Algebra 1****Skill Record Sheet**

Name \_\_\_\_\_

Please keep the entire year!!!!

Ch.	Skill #	Description	Attempt 1	Attempt 2	Attempt 3	Attempt 4	Sum of Best 2	Score
2	1	Solve multi-step equations						
	2	Solve proportions						
3	3	Solve and graph compound inequalities						
	4	Solve and graph absolute value equations and inequalities						
4	5	Evaluate and graph a function (linear and nonlinear)						
5	6	Graph linear equations						
	7	Write the equation of a line given two points						
	8	Write equations of parallel and perpendicular lines						
6	9	Solve & check systems of equations by graphing						
	10	Solve & check systems of equations algebraically						
	11	Solve & check systems of inequalities by graphing						
7	12	Simplify expressions with exponents						
8	13	Multiply polynomials						
	14	Factor trinomials						
	15	Factor special cases						
9	16	Solve quadratic equations by factoring						
	17	Solve quadratic equation by completing the square						
	18	Use the quadratic formula (give answer in simplified radical & decimal form)						
11	19	Multiply/divide rational expressions						
12	20	Make a boxplot, find mean and range						



# Change key

Alg 1 Quiz Wk 4 Block

Show ALL Work

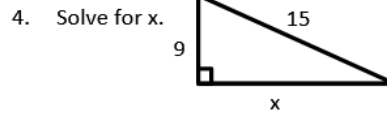
Name \_\_\_\_\_ Per \_\_\_\_\_

10

1. Solve  $3x - 5 = 34$

$$\begin{array}{r} 3x - 5 = 34 \\ +5 \quad +5 \\ \hline 3x = 39 \\ \hline x = 13 \end{array}$$

(2)



$$\begin{aligned} 10^2 + 10^2 &= 4 \times 10^2 \\ x^2 + 9^2 &= 15^2 \\ x^2 + 81 &= 225 \\ -81 \quad -81 \\ \hline x^2 &= 144 \\ \sqrt{x^2} &= \sqrt{144} \\ x &= 12 \end{aligned}$$

(2)

2. Solve  $4x - 3 = 8 - x$

$$\begin{array}{r} 4x - 3 = 8 - x \\ +x \quad +x \\ \hline 5x - 3 = 8 \\ +3 \quad +3 \\ \hline 5x = 11 \\ \hline x = \frac{11}{5} \end{array}$$

(2)

5. Write an algebraic expression for each phrase:

a) 75 less than  $m$

$$m - 75$$

b) The sum of 42 and twice  $x$

$$42 + 2x$$

(2)

3. Solve for y  $3x - 2y = 6$

$$\begin{array}{r} 3x - 2y = 6 \\ -3x \quad -3x \\ \hline -2y = -3x + 6 \\ \hline -2 \quad -2 \\ \hline y = \frac{3}{2}x - 3 \end{array}$$

(2)

Bonus: You are buying snacks at Fork Lift. You buy 4 apples and a juice. The juice costs \$1.75. The total cost is \$4.75. How much does 1 apple cost? You must show your work, or completely explain your thought process using words

x = cost of 1 apple

$$\begin{array}{r} 1.75 + 4x = 4.75 \\ -1.75 \quad -1.75 \\ \hline 4x = 3.00 \end{array}$$

$$\frac{4x}{4} = \frac{3.00}{4}$$

$$x = .75$$

\$.75

Each apple should cost \$.75

(2)