

8th Grade Assignment – Week #17

Announcement: Starting next week, you will be needing to use a calculator at times. Do not use a graphing calculator – a scientific calculator will serve you well for years to come. I recommend the Casio fx-300ES PLUS Scientific Calculator.

Individual Work

- Percents & Growth **Practice Sheet #1.**

Group Assignments:

For Tuesday:

- Percents & Growth **Group Sheet #1.**

*For Thursday: **Puzzles!***

- 1) Cathy is 10 years older than twice Ben's age. In two years, she will be 3 times his age. How old is Cathy now?
- 2) Bill's age is a year less than twice Jane's age. Five years ago, Bill's age was 3 times Jane's age. Find Bill's age.
- 3) The difference of two numbers is 11, and the sum of their squares is 673. Find the two numbers.

Percents & Growth – Practice Sheet #1

Do #1 to #6 in your head!
(Do you still remember all of your fraction to percent conversions?)

1) Convert to a percent.

- a) $\frac{1}{2}$
- b) $\frac{1}{3}$
- c) $\frac{2}{3}$
- d) $\frac{1}{4}$
- e) $\frac{3}{4}$
- f) $\frac{1}{5}$
- g) $\frac{2}{5}$
- h) $\frac{3}{5}$
- i) $\frac{4}{5}$
- j) $\frac{1}{6}$
- k) $\frac{5}{6}$
- l) $\frac{1}{8}$
- m) $\frac{3}{8}$
- n) $\frac{5}{8}$
- o) $\frac{7}{8}$

2) Convert to a percent.

- a) 0.23
- b) 0.79
- c) 0.04
- d) 0.078
- e) 0.0005
- f) 1.4

3) Convert to a fraction.

- a) 80%
- b) $66\frac{2}{3}\%$
- c) 19%
- d) $87\frac{1}{2}\%$

4) Convert to a decimal.

- a) 63%
- b) 8%
- c) 64.27%

5) What is...

- a) 10% of 58,000?
- b) 1% of 58,000?
- c) 60% of 350?
- d) $62\frac{1}{2}\%$ of 48?

6) a) 6 is what percent of 12?

- b) 6 is what percent of 18?
- c) 140 is what percent of 350?
- d) 27000 is what percent of 72000?

e) 73 is what percent of 7300?

f) 73 is what percent of 73,000?

g) 300 is 25% of what number?

h) 7000 is $33\frac{1}{3}\%$ of what number?

Show your work on a separate sheet, if necessary.

7) a) What is 71% of 800?

b) What is 400% of \$470?

c) What is 0.6% of \$470?

d) 810 is what percent of 1080?

e) 126° is what percent of the whole circle?

f) 153 is 18% of what number?

8) Increase/decrease.

a) What is 400 increased by 39%?

b) What is 72000 decreased by $12\frac{1}{2}\%$?

Percents & Growth – Group Sheet #1

Note: All banking interest problems in this unit are based upon an annual percentage rate (APR) *compounded annually* (i.e., *not* compounded monthly, daily, etc.), and it is assumed that there is no activity (i.e., no deposits or withdrawals) during the stated period of time.

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| <p>1) a) 450 is what proportion of 500? (Give answer as a fraction.)</p> <p>b) 500 is what proportion of 450?</p> <p>c) 450 is what percent of 500?</p> <p>d) 500 is what percent of 450?</p> <p>e) 500 is what percent more than 450?</p> | <p>3) Reword each "increase/decrease" or "more than/less than" statement as a straight percent.</p> <p>Example: Frank's salary is 15% less than Bill's.
Solution: Frank's salary is 85% of Bill's.</p> <p>Example: My rent was increased by 35%.
Solution: My rent is now 135% of what it was.</p> <p>a) The population of Happytown increased by 20% in the last year.</p> | <p>4) Reword each straight percent statement as an "increase/decrease" or "more than/less than" statement.</p> <p>a) Lenny weighs 180% as much as Mike.</p> <p>b) The price is 60% of what it was.</p> <p>c) Carol biked 400% as far as Alex.</p> |
| <p>2) a) 30 is what proportion of 75? (Give answer as a fraction.)</p> <p>b) 75 is what proportion of 30?</p> <p>c) 30 is what percent of 75?</p> <p>d) 75 is what percent of 30?</p> <p>e) 75 is what percent more than 30?</p> | <p>b) Jack is 38% taller than Fred.</p> <p>c) The price has been increased by 300%.</p> <p>d) Bill weighs 15% less than Henry.</p> <p>e) The price has been decreased by 70%.</p> | <p>5) Joe put \$200 into a savings account at 5% interest. What is his balance after three years?</p> <p>6) Give the formula that calculates the balance (P) of an account given the interest rate (R), initial deposit (P_0), and the number of years (t). (Hint: The previous problem can be done by taking 105% of each year's ending balance.)</p> |