Name: Key 4/17/2017 PreAlgebra (7th Hour) – Test 7 review

1) Convert the following factions and decimals to percentages. Convert the following percentages to decimals. Keep one decimal place in all your answers.

a) 7/8 87.5%
b) ½ 50%
c) .00698 .698%
d) 89.6% .896
e) .472 47.2%
f) 2/3 66.7%
g) 4/5 80%
h) 1.45% .0145
i) 1/6 16.7%

2) Find the percent of change in the following problems. Keep one decimal place in all your answers

a) 45 is increased to 64 $\frac{64-45}{45} = 42.2\%$
b) Milk priced went from \$3.67 to \$4.25 $\frac{4.25-3.67}{3.67} = 15.8\%$
c) 73 is decreased to 58 $\frac{58-73}{73} = -20.5\%$
d) Propane has gone from \$2.25 to \$1.56 $\frac{1.56-2.25}{1.56} = -44.2\%$
e) Gas priced have gone from \$1.84 to \$2.09 $\frac{2.09-1.84}{1.84} = 13.6\%$
f) Electricity has gone from \$.06 to \$.11 $\frac{.11-.06}{.06} = 83.3\%$

3) Answer the following questions about percentages. Remember the three different types of percent questions we talked about.

a) What is 9% of 20? $x = .09 \cdot 20 = 1.8$
b) What is 25% of 80? $y = .25 \cdot 80 = 20$
c) 45 is what percent of 50? $\frac{45}{50} = \frac{x \cdot 50}{50}$ $x = 90\%$
d) 34 is what percent of 75? $\frac{34}{75} = \frac{x \cdot 75}{75}$ $x = 45.3\%$
e) 10 is 60% of what number? $\frac{10}{.6} = \frac{.6 \cdot x}{.6}$ $x = 16.7$
f) 30 is 75% of what number? $\frac{30}{.75} = \frac{.75 \cdot x}{.75}$ $x = 40$

4) The simple interest formula is given by: I=P*r*t. State what each letter represents and the units that go with it.

I = interest (\$)
P = principal (\$)
r = rate (%)
t = time (years)

Application problems!!

5) Calculate the sales tax AND the final price paid for the following purchases. When you see the symbol (@) it means "at this price per item."

a) Total Sales: $300 $300 \cdot .08 = 24$
Tax Rate: 8%
Tax: $ 24
Total: $ 324

b) Original Price: $500 $500 \cdot .3 = 150$
Markup rate: 30%
New Price: $ 650

c) Bought:
2 CD @ $10 = 20
food is not taxed. 3 loaves of Bread @ $1.5 = 4.5
Tax Rate: 10%
Tax: $ 2 $20 \cdot .10 = 2$
Total: $ 26.5

d) Bought:
Star Wars III @ $20 = 20
2 pants @ $25 = 50
Tax Rate: 8.5% $70 \cdot .085 = 5.95$
Tax: $ 5.95
Total: $ 75.95

6) Dawson invested $400 into a savings account that earns 5% interest. If he leaves the money in the account for 3 years, how much interest does he make? How much money does he have now?

$I =$ $r = 5\%$ $I = (400)(.05)(3)$ Total: $460
$P = 400$ $t = 3$ $= \$60$

7) Kiara earned $40 on a savings account that pays 3% interest. If she had left her money in the account for 4 years, how much did she originally invest in the account? How much money does she have now?

$I = 40$ $r = 3\%$ $40 = P(.03)(4)$ $P = \$333.33$
$P = ?$ $t = 4$. $\frac{40}{.12} = \frac{P(.12)}{.12}$ Total: $373.33

8) Jocelynn invested $5,000 in a savings account and earned $100 over 5 years. What was the interest rate she was earning? How much money does she have now?

$I = 100$ $r = ?$ $100 = 5000(r)(5)$ $r = .4\%$
$P = 5000$ $t = 5$ $100 = 25000(r)$ Total: $5,100

9) Evan has $300, but he wants $400. The money is in a savings account that earns **0.05%**. How long does he have to leave his money in the account? (HINT: How much does he need to make in interest?)

$I = 400 - 300 = 100$ $r = .05\%$ $100 = (300)(.0005)(t)$
$P = 300$ $t = ?$ $100 = .15t$
$t = 666.7$ years.

10) The following are compounded yearly. Find the total amount in the account.

$P = 1000$
$r = 5\%$
$t = 3$ *years*

$A = 1000(1 + .05)^3$
$= \$1157.63$

$P = 2000$
$r = 8\%$
$t = 2$ *years*

$A = 2000(1.08)^2$
$= \$2332.80$