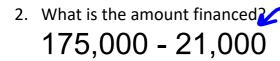Group Activity – Mortgage! #1

You agree to purchase a $175,000 and make a 12% down payment. The interest rate is 4.75% and it is May 15th. You are financing over 30 years.

1. What is your downpayment? **$21,000**

175000 x .12 =

2. What is the amount financed?

175,000 - 21,000   **P = 154,000**

3. How many days left in month?

31 - 15 =   **16 DAYS**

4. What is the prepaid interest cost?

154,000 x .0475 = **$7,315 per year**

7315/365 = $20.04 per day interest

20.04 x 16 = **$320.64**

5. What is your monthly payment?

(-) NEG

$$MP = P(r/12) / (1 - (1 + r/12)^{-m})$$

P = 154000

r = .0475
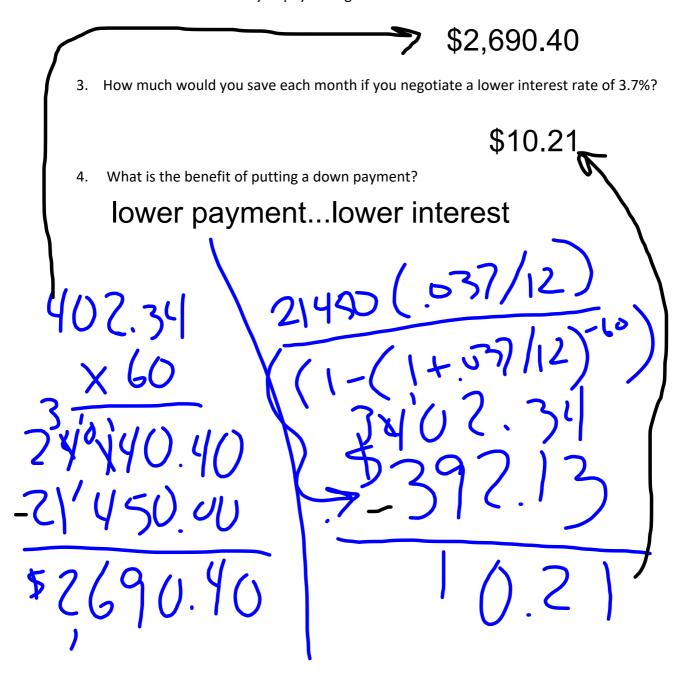
m = 12 x 30 = 360

$803.33

Group Activity – Loan! #2

Q. You are purchasing a car that costs $21,450 financed over 5 years at 4.75% interest. (#1-3)

1. What is the monthly payment on this car?

$$21450(.0475/12)/(1-(1+.0475/12)^{-60})$$

$$\$402.34$$

2. How much interest will you pay during the life of the loan?

$$\$2,690.40$$

3. How much would you save each month if you negotiate a lower interest rate of 3.7%?

$$\$10.21$$

4. What is the benefit of putting a down payment?

lower payment...lower interest

$$402.34$$
$$\times 60$$
$$24140.40$$
$$-21450.00$$
$$\$2690.40$$

$$\frac{21450(.037/12)}{(1-(1+.037/12)^{-60})}$$
$$\$392.13$$

$$402.34$$
$$-392.13$$
$$10.21$$

Group Activity! - Mortgage #3

Q. You are purchasing a $380,000 home on June 13th and make 18% down payment. The interest rate is 6.75%. You are financing it over 25 years. (#5-10)

1. How much is your down payment?

    68,400

2. How much is the amount financed?

    311, 600

3. What is the prepaid interest cost?

    311,600 × .0675 = 21,033 / 365 = \$57.62 × 17

    \$979.61

4. What is your monthly payment?

    \$2,152.88

5. How much would you save each month if the interest rate is 4.6% instead?

    $403.17

6. What is the price range of the closing costs? (2%-7%)

$$\frac{311600\left(.0675/12\right)}{\left(1-\left(1+.0675/12\right)^{-300}\right)}$$

→ 1,749.11

\$6232 - \$21,812

Group Activity! – Mortgage #4

You are purchasing a $240,000 home on June 18th and make 15% down payment. The interest rate is 5.6%. You are financing it over 30 years.

1. How much is your **down payment**?

$36,000

2. . How much is the **amount financed**?

$204,000

3. . What is the **prepaid interest** cost?

$375.58

4. . What is your **monthly payment**?

$1171.12

① $240000 \times .15 = 36000$

② $240000 - 36000$
$= 204,000$

③ $\dfrac{(204000 \times .056)}{365} \times 12$

Group Activity! - Living #5

The monthly rent on your apartment is $416.67. You have an hourly wage job at which you work 40 hours per week during 50 weeks of the year.

1. If you spend 25% of your gross annual salary on rent, **what is your gross annual salary?**

   $20,000 $20,000.16

2. If all of the above is true, **how much do you earn per hour?** (take your time!)

   $10 per hour

$416.67 is 25% of MONTHLY GROSS

$$\frac{416.67}{.25} = \frac{.25X}{.25}$$

$1,666.68 = X

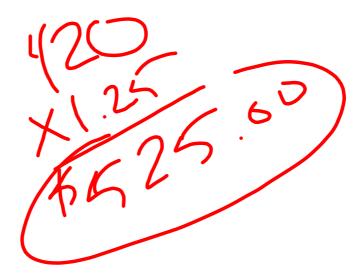# Group Activity! – Floor Plan #6

A rectangular room measures 28 feet by 15 feet. The room is drawn to a scale of ½ inch represents 1 foot.

1. What are the dimensions of the room on the **scale drawing**?

$$\frac{IN}{ft} \rightarrow \frac{1/2}{1} = \frac{X}{28} \Bigg\{ \begin{array}{l} L = 14 \\ W = 7.5 \end{array}$$

2. If carpet costs $1.25 per square foot, **how much would** it cost to carpet this room?

$$\begin{array}{r} 4 \\ 28 \\ \times 15 \\ \hline 140 \\ 28 \\ \hline 420 \end{array}$$

$$\begin{array}{r} 420 \\ \times 1.25 \\ \hline \$525.00 \end{array}$$

FORMULAS

MONTHLY PAYMENT

$$MP = \frac{P(r/12)}{\left(1 - (1 + r/12)^{-m}\right)}$$

P = PRINCIPLE
r = rate
m = # OF MONTHS

FINDING GROSS PAY GIVEN RENT

MONTHLY RENT IS X% OF GROSS

$$R = 0.\_\_\_ \times G$$