Chapter 8 Practice Test

Name: Tyler Hiatt   Period: 1

Q. You are purchasing a car that costs $24,450 financed over 5 years at 4.50% interest. (#1-3)

1. What is the monthly payment on this car?

$$\frac{24450\left(\frac{.0450}{12}\right)}{\left(1-\left(1+\frac{.0450}{12}\right)^{-60}\right)} = 455.82$$

$\boxed{\$455.82}$

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

$455.82 \cdot 60 = 27349.20$

$$\begin{array}{r} 27349.20 \\ -\ 24450.- \\ \hline 2899.20 \end{array}$$

$\boxed{\$2899.20}$

3. How much would you save each month if you negotiate a lower interest rate of 3.5%?

$$\frac{24450\left(\frac{.035}{12}\right)}{\left(1-\left(1+\frac{.035}{12}\right)^{-60}\right)} = 444.79$$

$$\begin{array}{r} 455.82 \\ -\ 444.79 \\ \hline 11.03 \end{array}$$

$\boxed{\$11.03}$

Q. You are purchasing a $160,000 home on March 10th and make 8% down payment. The interest rate is 4.25%. You are financing it over 30 years. (#5-10)

4. How much is your down payment?

$160000 \cdot .08 = 12800$

5. How much is the amount financed?

$$\begin{array}{r} 160000 \\ -\ 12800 \\ \hline 147200 \end{array}$$

$\boxed{\$147200}$

6. What is the prepaid interest cost?

$\left(\frac{.0425}{365}\right)147200 = 17.14 \cdot 21 = 359.94$

$\boxed{\$359.94}$

7. What is your monthly payment?

$$\frac{147200\left(\frac{.0425}{12}\right)}{\left(1-\left(1+\frac{.0425}{12}\right)^{-360}\right)} = 724.14$$

$\boxed{\$724.14}$

8. How much would you **save each month** if the interest rate is 3.9% instead?

$$\frac{147200\left(\frac{.039}{12}\right)}{\left(1-\left(1+\frac{.039}{12}\right)^{-360}\right)} = 694.30$$

$$\begin{array}{r} 724.14 \\ -\ 694.30 \\ \hline 29.84 \end{array}$$

$\boxed{\$29.84}$

9. What is the price range of the closing costs? (2%-7%)
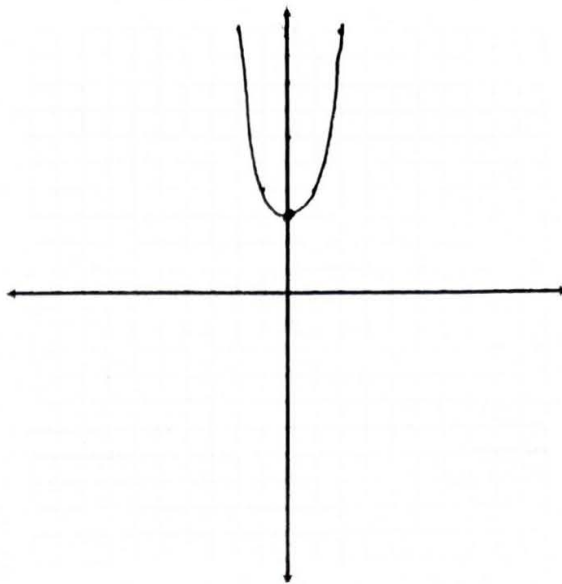
$160000 \cdot .02$
$160000 \cdot .07$

$\boxed{3200 - 11200}$

Graph each function and find the domain and range. (Use interval notation)
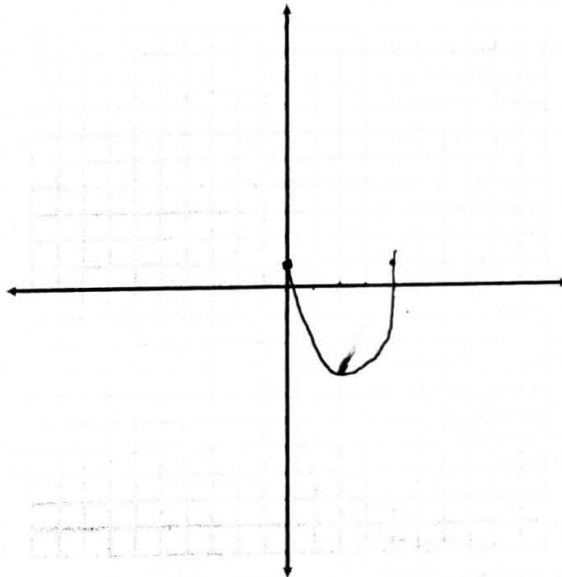
10. $f(x) = x^2 + 3$

D: $(-\infty, \infty)$

R: $[3, \infty)$

11. $g(x) = (x-2)^2 - 3$

D: $(-\infty, \infty)$

R: $(-3, \infty)$

12. $h(x) = \sqrt{3x + 18}$

$3x + 18 \geq 0$
-18
$\dfrac{3x}{3} \geq \dfrac{6-18}{3}$ $x \geq -6$

D: $[-6, \infty)$

R: $[0, \infty)$