

1. Find the domain and range of the relation and tell whether it's a function.

$$R = \{ (5, -3), (7, -4), (6, -6), (5, 9) \}$$

2. A function is defined as $f(x) = 5x - x^2$. Find: a. $f(0)$ b. $f(1)$ c. $f(-2)$

3. Graph the function defined by each of the following::

a. $g(x) = x^2 + 3$, where x is an integer and $-2 \leq x \leq 2$ b. $f(x) = 3 - 4x$

4. Find the equation of the line that goes through the points $(-4, 2)$ and $(-3, -7)$.

5. The base of a pyramid is a triangle whose base is 10ft and whose height is 4ft. The pyramid has a height of 10ft. Find the: a. area of the base b. volume of the pyramid

6. Through how many degrees does the hour hand on a clock turn in going from:

a. 12 o'clock to 6 o'clock b. 2 o'clock to 7 o'clock?

7. In triangle ABC, find the measure of $\angle C$ if:

a. $m\angle A = 26^\circ$ and $m\angle B = 52^\circ$ b. $m\angle C = 3m\angle A = 3m\angle B$

8. Triangles ABC and XYZ are similar, with $m\angle A = m\angle X$ and $m\angle B = m\angle Y$. If AB, BC, and AC are 3in., 4in., and 5in., respectively, and XY is 20 in., find the length of YZ.

9. What is the measure of an interior angle of a regular polygon of: a. 6 sides b. 12 sides

10. Find the answer in "clock arithmetic". a. $4 + 9 =$ b. $3 - 7 =$ c. $5 \times 8 =$

11. $\{0,1,2,3,4\}$ is the replacement set for n . Find the value of n if:

a. $2 \times 4 = n \pmod{5}$ b. $4 + 3 = n \pmod{5}$ c. $1 - 3 \equiv n \pmod{5}$

12. Given the set $A = \{\%, @ \}$ and the operations $*$ and $\#$ as defined in these tables:

*	%	@
%	%	@
@	@	%

#	%	@
%	%	%
@	%	@

Find the result of the given operation: a. $(@ * @) \# \%$ b. $(@ \# \%) \# (\% * @)$

13. What is the "saddle point" of each matrix?

a. $\begin{bmatrix} 5 & 8 \\ -4 & 7 \end{bmatrix}$

b. $\begin{bmatrix} -7 & 5 & 4 \\ -9 & 3 & -3 \\ 7 & 8 & 6 \end{bmatrix}$

14. Extra Credit: Find: a. $A + B$ b. $A - B$ c. $A \times B$ using these matrices:

$$A = \begin{bmatrix} 2 & -6 \\ 4 & -4 \end{bmatrix}$$

$$B = \begin{bmatrix} -3 & 5 \\ 7 & 2 \end{bmatrix}$$