

**LESSON**  
**3-3**

**Practice B**

**Writing Functions**

Determine a relationship between the  $x$ - and  $y$ -values. Write an equation.

1.

$x$	-4	-3	-2	-1
$y$	-1	0	1	2

\_\_\_\_\_

2.  $\{(2, 3), (3, 5), (4, 7), (5, 9)\}$

\_\_\_\_\_

Identify the independent and dependent variables in each situation.

3. Ice cream sales increase when the temperature rises.

I: \_\_\_\_\_

D: \_\_\_\_\_

4. Food for the catered party costs \$12.75 per person.

I: \_\_\_\_\_

D: \_\_\_\_\_

Identify the independent and dependent variables. Write a rule in function notation for each situation.

5. Carson charges \$7 per hour for yard work.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Kay donates twice what Ed donates.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Evaluate each function for the given input values.

7. For  $f(x) = 5x + 1$ , find  $f(x)$  when  $x = 2$  and when  $x = 3$ . \_\_\_\_\_

8. For  $g(x) = -4x$ , find  $g(x)$  when  $x = -6$  and when  $x = 2$ . \_\_\_\_\_

9. For  $h(x) = x - 3$ , find  $h(x)$  when  $x = 3$  and when  $x = 1$ . \_\_\_\_\_

Complete the following.

10. An aerobics class is being offered once a week for 6 weeks. The registration fee is \$15 and the cost for each class attended is \$10. Write a function rule to describe the total cost of the class. Find a reasonable domain and range for the function.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Additional Practice**

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For each pair of functions, find  $f(x) + g(x)$  and  $f(x) - g(x)$ .

1.  $f(x) = 3x + 2$ ,  $g(x) = 2x + 5$

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2.  $f(x) = 4x - 1$ ,  $g(x) = 3x - 4$

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3.  $f(x) = -5x + 3$ ,  $g(x) = 2x - 4$

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4.  $f(x) = 3x - 4$ ,  $g(x) = -2x + 3$

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For each pair of functions, find  $f(x) \cdot g(x)$ .

5.  $f(x) = -x + 7$ ,  $g(x) = -2$

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6.  $f(x) = -5$ ,  $g(x) = 2x - 7$

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Find the inverse of the function.

7.  $f(x) = 3x + 9$

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8.  $f(x) = 5x - 2$

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9.  $f(x) = -x + 2$

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10.  $f(x) = -4x + 3$

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11.  $f(x) = 0.5x - 2$

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12.  $f(x) = -0.25x + 6$

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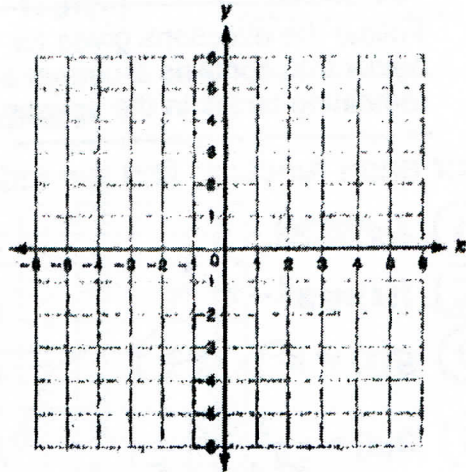
**LESSON**  
**3-1**

**Practice A**  
**Graphing Functions**

Graph the function for the given domain.

1.  $y = x + 2$ ; D:  $\{-2, -1, 0, 1, 2\}$

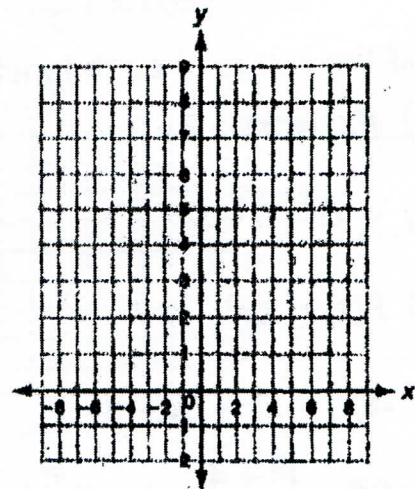
x	$y = x + 2$	(x, y)



Graph the function. The domain is all real numbers.

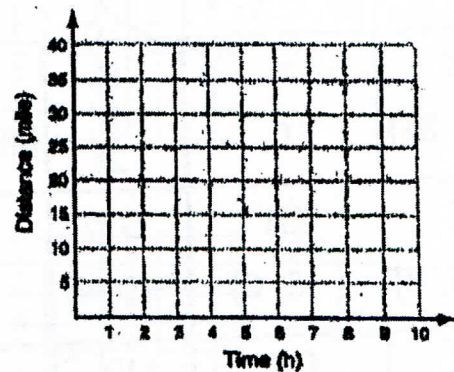
2.  $y = x^2 + 2$

x	$y = x^2 + 2$	(x, y)



3. A Pacific salmon can swim at a maximum speed of 8 mi/h. The function  $y = 8x$  describes how many miles  $y$  the fish swims in  $x$  hours. Graph the function. Use the graph to estimate the number of miles the fish swims in 3.5 hours.

x	$y = 8x$	(x, y)



# What Did They Call the Duck Who Became a Test Pilot?

Follow the directions given for each section. Cross out each box in the rectangle below that contains a correct answer. When you finish, print the letters from the remaining boxes in the spaces at the bottom of the page.

I For each function, find the indicated values.

- ①  $f(x) = 2x - 5$       A.  $f(6)$       B.  $f(1)$   
 ②  $f(x) = x^2 - 4$       A.  $f(12)$       B.  $f(-2)$   
 ③  $g(x) = x^2 - 7x + 1$       A.  $g(3)$       B.  $g(0)$   
 ④  $h(x) = \frac{x+3}{x^2+x-6}$       A.  $h(4)$       B.  $h(-1)$

II Find the range of each function for the given domain.

- ⑤  $f(x) = 3x + 2$        $D = \{-2, 0, 2\}$   
 ⑥  $g(x) = 9 - 5x$        $D = \{-3, -1, 1\}$   
 ⑦  $F(x) = 2x^2 - 1$        $D = \{5, 1, -4\}$   
 ⑧  $h(x) = x^2 - 8x + 3$        $D = \{1, 0, -1\}$   
 ⑨  $f(t) = \frac{t^2 + 4t}{t - 6}$        $D = \{4, 0, -4\}$   
 ⑩  $G(n) = -n^2 + 2n + 3$        $D = \{-2, 1, 4\}$

SK {49, 1, 31}	Y 0	S $\frac{1}{2}$	AF {49, -1, 9}	E {-16, 0}	IL 7	LY {-16, 8, -2}
BE {24, 14, 4}	ER {-5, 0}	ST {-5, 4}	QU $-\frac{3}{2}$	IT $-\frac{1}{3}$	I -3	A {24, 14, -7}
DU -11	CK {-4, 7, 12}	MB 140	IN {-4, 2, 8}	H {-4, 3, 12}	ER {-4, 2, -1}	UP 1

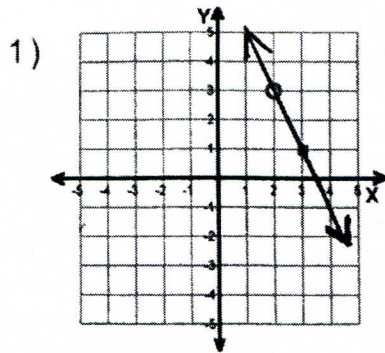
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Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

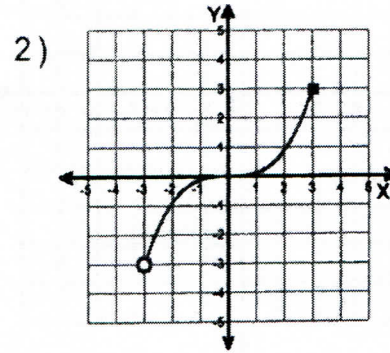
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### Domain and Range of Graphs



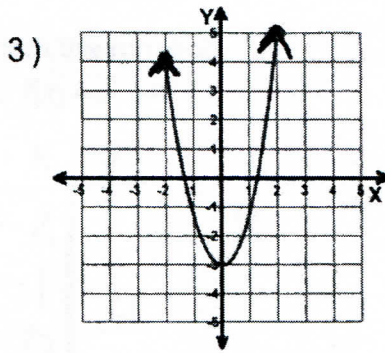
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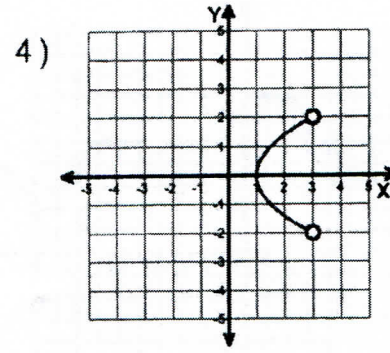
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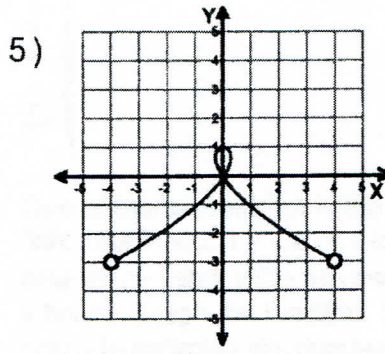
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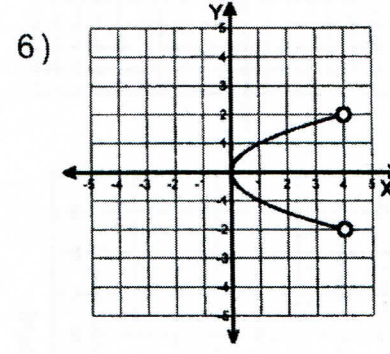
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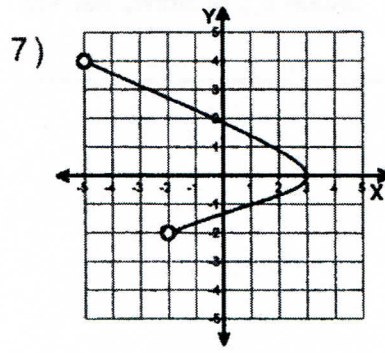
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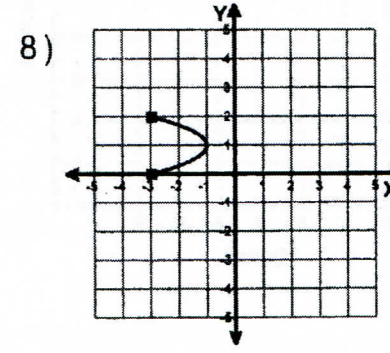
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Domain: \_\_\_\_\_

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Domain: \_\_\_\_\_

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