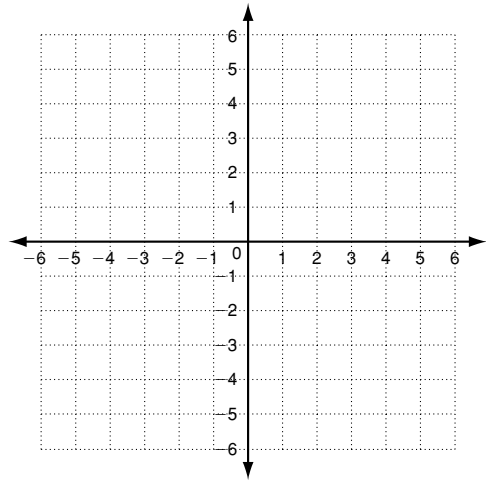


LESSON
4-4

Practice B
Graphing Functions

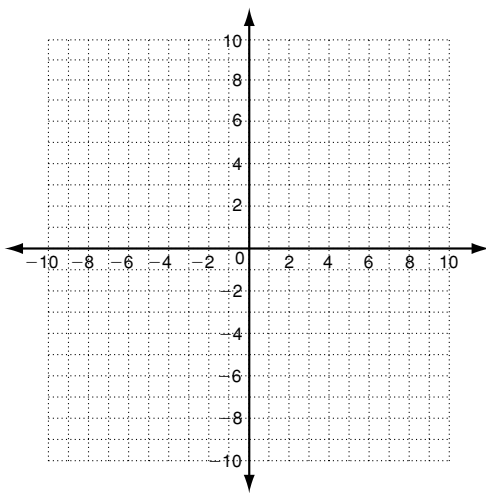
Graph the function for the given domain.

1. $y = |x| - 1$; D: $\{-1, 0, 1, 2, 3\}$

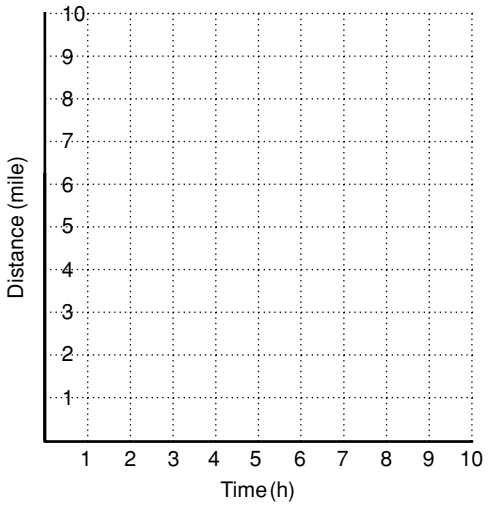


Graph the function.

2. $f(x) = x^2 - 3$



3. One of the slowest fish is the blenny fish. The function $y = 0.5x$ 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.

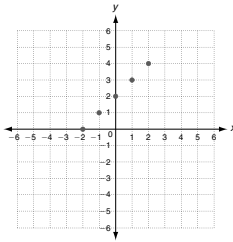


LESSON **Practice A**
4-4 **Graphing Functions**

Graph the function for the given domain.

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

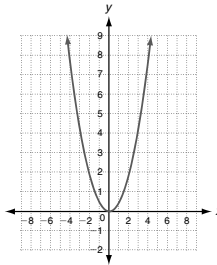
x	$y = x + 2$	(x, y)
-2	$y = -2 + 2$	$(-2, 0)$
-1	$y = -1 + 2$	$(-1, 1)$
0	$y = 0 + 2$	$(0, 2)$
1	$y = 1 + 2$	$(1, 3)$
2	$y = 2 + 2$	$(2, 4)$



Graph the function. The domain is all real numbers.

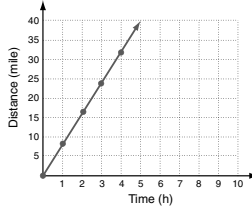
2. $y = x^2 + 2$

x	$y = x^2 + 2$	(x, y)
-4	$y = (-4)^2 + 2$	$(-4, 8)$
-2	$y = (-2)^2 + 2$	$(-2, 2)$
0	$y = (0)^2 + 2$	$(0, 2)$
2	$y = (2)^2 + 2$	$(2, 2)$
4	$y = (4)^2 + 2$	$(4, 8)$



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)
0	$y = 8(0)$	$(0, 0)$
1	$y = 8(1)$	$(1, 8)$
2	$y = 8(2)$	$(2, 16)$
3	$y = 8(3)$	$(3, 24)$
4	$y = 8(4)$	$(4, 32)$

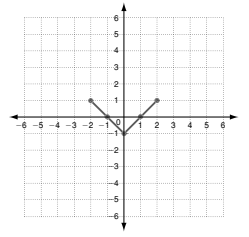


about 28 miles

LESSON **Practice B**
4-4 **Graphing Functions**

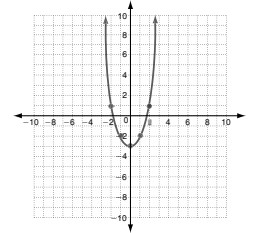
Graph the function for the given domain.

1. $y = |x| - 1$; D: $\{-1, 0, 1, 2, 3\}$

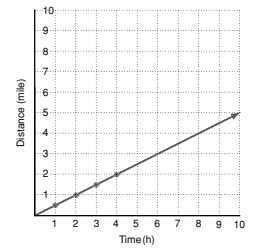


Graph the function.

2. $f(x) = x^2 - 3$



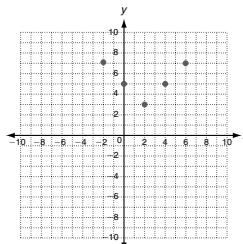
3. One of the slowest fish is the blenny fish. The function $y = 0.5x$ describes how many miles y the fish swims in x hours. Graph the function. Use the graph to estimate the number of miles the fish swims in 3.5 hours.



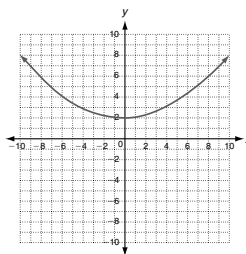
about 1.75 miles

LESSON **Practice C**
4-4 **Graphing Functions**

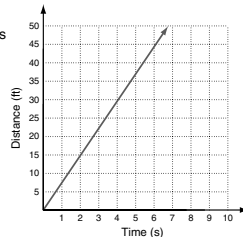
1. Graph $y = |x - 2| + 3$ for the following domain: $\{-2, 0, 2, 4, 6\}$



2. Graph $y = (\frac{x}{4})^2 + 2$.



3. A human being can swim at a maximum rate of 7.4 feet per second. The function $y = 7.4x$ describes how many feet y a person can swim in x seconds. Graph the function. Use the graph to estimate the maximum number of feet a person can swim in 4.5 seconds.



about 33 feet

LESSON **Reteach**
4-4 **Graphing Functions**

There are three steps to graphing a function.

Graph $f(x) = |x| + 2$.

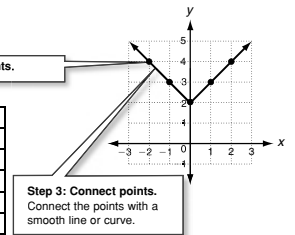
Remember that $f(x)$ is function notation for y , so write the function as $y = |x| + 2$.

Step 1: Generate points.
Unless a domain is given, you can pick any values of x .

Step 2: Plot points.

Step 3: Connect points.
Connect the points with a smooth line or curve.

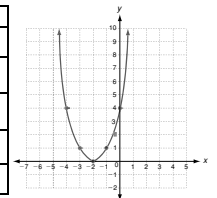
x	$y = x + 2$	(x, y)
-2	$y = -2 + 2 = 2 + 2 = 4$	$(-2, 4)$
-1	$y = -1 + 2 = 1 + 2 = 3$	$(-1, 3)$
0	$y = 0 + 2 = 0 + 2 = 2$	$(0, 2)$
1	$y = 1 + 2 = 1 + 2 = 3$	$(1, 3)$
2	$y = 2 + 2 = 2 + 2 = 4$	$(2, 4)$



Graph each function.

1. $y = (x + 2)^2$

x	$y = (x + 2)^2$	(x, y)
-4	$y = (-4 + 2)^2 = (-2)^2 = 4$	$(-4, 4)$
-3	$y = (-3 + 2)^2 = (-1)^2 = 1$	$(-3, 1)$
-2	$y = (-2 + 2)^2 = (0)^2 = 0$	$(-2, 0)$
-1	$y = (-1 + 2)^2 = (1)^2 = 1$	$(-1, 1)$
0	$y = (0 + 2)^2 = (2)^2 = 4$	$(0, 4)$



2. $f(x) = \frac{1}{2}x - 3$

x	$y = \frac{1}{2}x - 3$	(x, y)
-4	$y = \frac{1}{2}(-4) - 3 = -2 - 3 = -5$	$(-4, -5)$
-2	$y = \frac{1}{2}(-2) - 3 = -1 - 3 = -4$	$(-2, -4)$
0	$y = \frac{1}{2}(0) - 3 = 0 - 3 = -3$	$(0, -3)$
2	$y = \frac{1}{2}(2) - 3 = 1 - 3 = -2$	$(2, -2)$
4	$y = \frac{1}{2}(4) - 3 = 2 - 3 = -1$	$(4, -1)$

