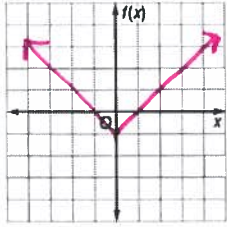


3-8 Practice Absolute Value Functions

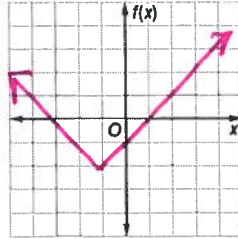
Graph each function. State the domain and range.

1. $f(x) = |x| - 1$



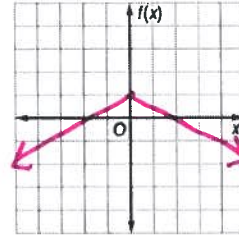
D: All real #'s
R: $y \geq -1$

2. $f(x) = |x + 1| - 2$



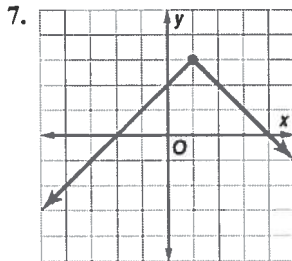
D: All real #'s
R: $y \geq -2$

3. $f(x) = -\left|\frac{1}{2}x\right| + 1$

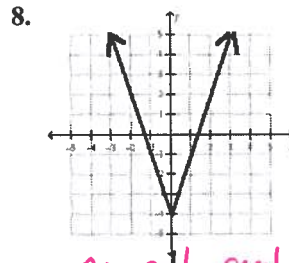


D: All real #'s
R: $y \leq 1$

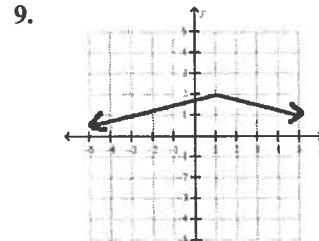
Determine the domain and range of each function.



D: All real #'s
R: $y \leq 3$



D: all real #'s
R: $y \geq -4$



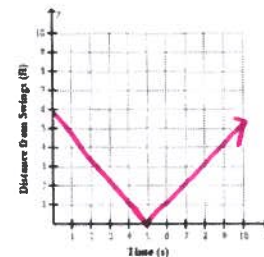
D: all real #'s
R: $y \leq 2$

10. **DISTANCE** The function $y = \frac{5}{4}|x - 5|$ models Ryan's distance in feet from the swings on a playground after x seconds.

a. Graph the function.

b. After how many seconds will Ryan reach the swings?

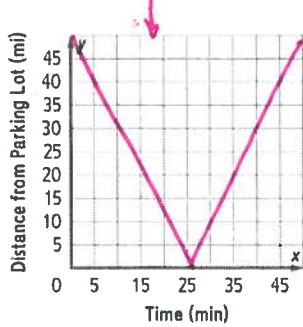
5 seconds



3-8 Word Problem Practice

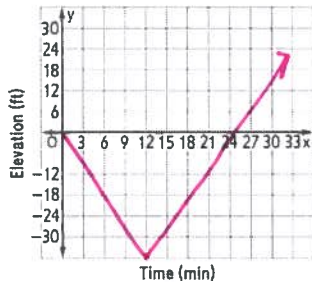
Absolute Value Functions

1. **TRAVELING** The function $y = \frac{5}{4}|x - 5|$ models a car's distance in miles from a parking lot after x minutes. Graph the function. After how many minutes will the car reach the parking lot?



↳ 25 minutes

2. **SCUBA DIVING** The function $y = 3|x - 12| - 36$ models a scuba diver's elevation in feet compared to sea level after x minutes. Graph the function. How far below sea level is the scuba diver at the deepest point in their dive?

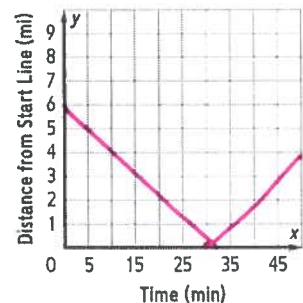


↳ 36 feet below sea level

3. **BIKING** Lydia is bicycle racing. The race is along a circular path. She is 6 miles from the start line. She is approaching the start line at a speed of 0.2 mile per minute. After Lydia reaches the start line, she continues at the same speed, taking another lap around the track.

- a. Organize the information into a table. Include a row for time in minutes x , and a row for distance from start line $f(x)$.

x	0	10	20	30	40	50
$f(x)$	6	4	2	0	2	4



- b. Draw a graph to represent Lydia's distance from the start line.