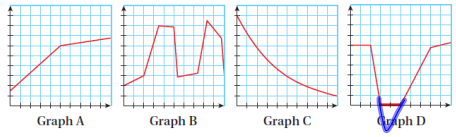
Lesson 9-1 to 9-4 Review

Match each situation to its corresponding graph. Sketch a possible graph of the situation if it does not match any of the given graphs.



1. Due to a product recall, a company's profits drop sharply into a loss but rebound a few weeks later.
2. The value of a car declines as the car gets older.
3. A souvenir shop's sales are seasonal, with high sales in summer and winter and low sales in spring and fall.
4. An airplane ascends to a peak height of 30,000 feet and then descends to a cruising altitude of 24,000 feet.

Feb 3-8:02 AM

Recreation Claire is hiking up the South Kaibob Trail at the Grand Canyon. The table shows Claire's altitude above sea level every 15 minutes after she starts to hike. Use a graph and an equation to find how long it will take Claire to reach the rim of the canyon at 7260 feet.

Claire's Altitude	
Time (min)	Altitude (ft)
15	2940
30	3240
45	3540
60	3840
75	4140

$F(x) = 300x + 2640$

Feb 3-3:34 PM

Evaluate each piecewise function for x = -3 and x = 7.

$$h(x) = \begin{cases} 0 & \text{if } x \le -2 \\ 7 & \text{if } -2 < x \le 5 \\ 10 & \text{if } x > 5 \end{cases} \qquad g(x) = \begin{cases} 3x^2 + 4 & \text{if } x \le -1 \\ 2x - 1 & \text{if } x > -1 \end{cases}$$

$h(-3) = 0$

$h(7) = 10$

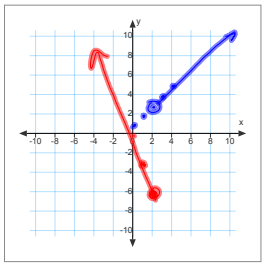
$g(-3) = 31$

$g(7) = 13$

Feb 4-10:59 AM

Graph the function.

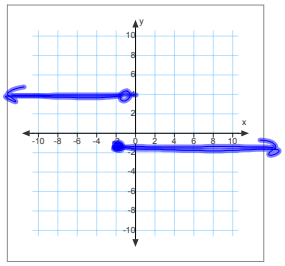
$$h(x) = \begin{cases} -3x + 0 & \text{if } x \le 2 \\ x + 1 & \text{if } x > 2 \end{cases}$$



Feb 4-11:04 AM

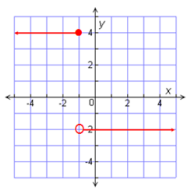
Graph the function.

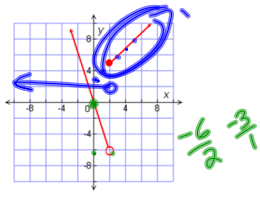
$$f(x) = \begin{cases} 4 & \text{if } x < -1 \\ -1 & \text{if } x \ge -1 \end{cases}$$



Feb 9-8:04 AM

Write the equation for the piecewise function.





$f(x) = \begin{cases} 4 & x \le -1 \\ -2 & x > -1 \end{cases}$

$f(x) = \begin{cases} -3x & x < 2 \\ x + 3 & x \ge 2 \end{cases}$

Feb 9-8:07 AM

Find the following functions, given:

$f(x) = x+2$

$g(x) = 2x-5$

$h(x) = 4x^2$

$p(x) = x^2 - x - 6$

1. (f + p)x

2. (h - f)x

3. (fg)x

4. $\left(\frac{h}{f}\right)x$

5. $\left(\frac{f}{p}\right)x$

Feb 4-11:08 AM

Find the following functions, given:

$f(x) = x+2$

$g(x) = 2x-5$

$h(x) = 4x^2$

$p(x) = x^2 - x - 6$

6. $g(h(2))$

7. $h(g(x))$

8. $f(g(-3))$

9. $g(f(x))$

Feb 4-12:13 PM

no table or graph on page 658!

Assignment: p. 658 #5, 7-10, 12
p. 681 #1, 3-4
p. 710 #15-24

Feb 4-3:09 PM