

## Chapter 1 Review Extra Practice Answers

1. a.  $\frac{3(\sqrt{42} + \sqrt{21})}{7}$

b.  $\frac{3(\sqrt{6} + 1)}{5}$

c.  $\frac{37\sqrt{6} + 90}{2}$

d.  $\frac{36\sqrt{2} + 10\sqrt{21} - 36\sqrt{3} - 15\sqrt{14}}{41}$

2. a. The slope of the secant is 6.

b. The average rate of change is 2.

c.  $y = -4x + 11$

3. a. -3

b. 4

4. a. -25 m/s

b. -30 m/s

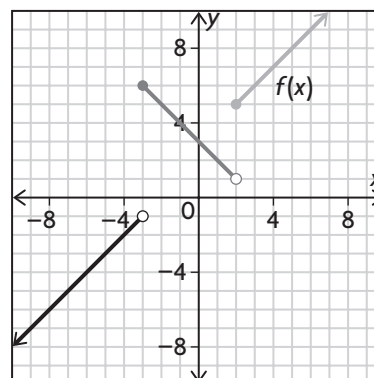
c. -70.71 m/s

5.

$x$	$\frac{x-4}{x^2-x-12}$
3.9	0.1449
3.99	0.1431
3.999	0.1429
4.001	0.1428
4.01	0.1427
4.1	0.1408

The algebraic limit is  $\frac{1}{7}$  and the values in the table confirm this.

6. a.



b. The function is discontinuous at the points  $x = -3$  and  $x = 2$ .

c. The limit of  $f(x)$  does not exist at either  $x = -3$  or  $x = 2$ .

7. a. -2

b. -13

c. 11

d. 1

8.  $a = 1, b = 0$