

## Math 141 Midterm Review: Answers

1.  $(5, -4)$  and  $(5, 8)$

2. (a)  $(-\infty, -4]$

(b)  $[0, \infty)$

3. (a) 31

(b)  $8x^2 - 8x + 1$

(c)  $4a + 2h - 4$

(d)  $\{-1, 3\}$

4. Yes. [Solve for  $y$ .] Each input value only gives one output value.

5. Odd.

6. (a) Instead of trying to graph this on the computer, I'm going to explain it a different way: look at the answer for Section 2.2 #49. If you reflect it over the  $y$ -axis and shift it down one unit, you get the answer to this problem. :)

(b)  $[-2, 0]$

7. (i) Shift the graph right 5 units. (ii) Shrink the graph vertically by a factor of  $\frac{1}{4}$ . (iii) Shift the graph down 2 units.

8. (a) 48 ft/s

(b) 105 ft

9. (a) 2

(b)  $3x^2 - 6x + 2$

(c)  $3x^2 - 17x + 22$

10. (a) 3

(b) 3

11.  $f^{-1}(x) = \sqrt[3]{\sqrt[5]{x} + 2}$