Bell Work
Dream books page 23
Follow these instructions
1) Plot the points on the coordinate plane.
2) Find the slope of $\overline{AB}$ and $\overline{CB}$.
3) Is the triangle a right triangle?
4) How do you know?

6.7 Inverse Relations & Functions
A relation pairs an element of its domain "a" to an element of its range "b". (a, b)
The relations inverse pairs b to a. (b, a)
If both a relation and its inverse are functions, then they are inverse functions.

What determines a function?
How do you know if the relation is a function?
How do you know if the inverse is a function?
- straight line test
  - x values do not repeat
  - each (x) value corresponds with exactly one (y) value
Each element of the domain corresponds with exactly one element of the range.

Finding the inverse of a relation.
What is the inverse of relation $s$?
To find the inverse, switch the x and y.

What is the equation for the inverse?
Switch the x and y variables and solve for y.
1) $y = 2x + B$
   $x = 2y + 8$
   $x - 8 = 2y$
   $y = \frac{1}{2}x - 4$
2) $y = 5x^2 + 2$
   $x = 5y^2 + 2$
   $x - 2 = 5y^2$
   $y = \sqrt{x - 2}$

What is the equation for the inverse?
Switch the x and y variables and solve for y.
3) $f(x) = \sqrt{x - 2}$
   $y = \sqrt{x - 2}$
   $f^{-1}(x) = (x - 2)^2$
   $x^2 = y - 2$
   $x^2 + 2 = y$
Class work
page 410 9-19 odds in class
Finish 6.6 plus any other assignments

Homework
page 410  8, 12, 16, 18
page 403  64, 70, 72, 74

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
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<tr>
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<tr>
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<tr>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

8) \( y = 1/3x - 1/3 \) yes
12) \( y = 1/3x - 1/3 \) yes
16) \( y = \pm\sqrt{x - 4} \) no
18) \( y = \pm\sqrt{x + 8} \) no

page 403  64, 70, 72, 74
64) \(-4\) 70) \(-8/9\) 72) \(3x^2; 9x^2\)
74) \(12x^2 + 2; 6x^2 + 4\)

Quiz 6.2-6.4
Page 389
Problems 8, 11, 12, 15, 16, 18, 20, 31