

HW #3-12 Solutions

$$\textcircled{1} \quad m = \frac{12-3}{0+6} = \frac{9}{6} = \frac{3}{2}$$

Answers can vary!!!

$$\frac{8-b}{c+1} = \frac{3}{2} \rightarrow \begin{array}{l} 8-b=3 \\ -b=-5 \\ \boxed{b=5} \end{array}$$

$$\begin{array}{l} c+1=2 \\ \boxed{c=1} \end{array}$$

$$\textcircled{2} \quad \begin{array}{l} -y = -5x + 6 \\ y = 5x - 6 \end{array}$$

$$m_{\perp} = -\frac{1}{5}$$

$$y+4 = -\frac{1}{5}(x+10)$$

$$y+4 = -\frac{1}{5}x - 2$$

$$y = -\frac{1}{5}x - 6$$

$$5x - 6 = -\frac{1}{5}x - 6$$

$$25x - 30 = -x - 30$$

$$26x = 0$$

$$x = 0$$

$$y = -6$$

$$(-10, -4) \text{ and } (0, -6)$$

$$\sqrt{(-10-0)^2 + (-4+6)^2}$$

$$\sqrt{(-10)^2 + 2^2}$$

$$\sqrt{100 + 4}$$

$$\sqrt{104}$$

$$\boxed{2\sqrt{26}}$$

$$\textcircled{3} \quad m = \frac{25-7}{9+6} = \frac{18}{15} = \frac{6}{5}$$

$$y-25 = \frac{6}{5}(x-9)$$

$$y-25 = \frac{6}{5}x - \frac{54}{5}$$

$$5y-125 = 6x-54$$

$$\boxed{6x-5y = 71}$$

④ $(-7, 6)$ and $(-3, 0)$

$$m = \frac{0-6}{-3+7} = \frac{-6}{4} = -\frac{3}{2}$$

$$y-0 = -\frac{3}{2}(x+3)$$

$$y = -\frac{3}{2}x - \frac{9}{2}$$

$$2y = -3x - 9$$

$$\boxed{3x + 2y = -9}$$

⑤ $\boxed{x=5}$

⑥ $3y = -x + 7$
 $y = -\frac{1}{3}x + \frac{7}{3}$

$$m_{\perp} = \textcircled{3}$$

$$-y = -5x + 6$$

$$y = 5x - 6$$

$$y = 3x - 6$$

$$\boxed{3x - y = 6}$$

⑦ mdpt = $\left(\frac{2-6}{2}, \frac{5-1}{2}\right) = \left(-\frac{4}{2}, \frac{4}{2}\right) = (-2, 2)$

$$m = \frac{5+1}{2+6} = \frac{6}{8} = \frac{3}{4}$$

$$m_{\perp} = -\frac{4}{3}$$

$$y-2 = -\frac{4}{3}(x+2)$$

$$y-2 = -\frac{4}{3}x - \frac{8}{3}$$

$$3y-6 = -4x-8$$

$$\boxed{4x + 3y = -2}$$

Name:

Date:

Period:

HW #3-12: Test Review (part 2)

NO WORK = NO CREDIT! ... Box answers when appropriate ... Exact answers unless otherwise stated

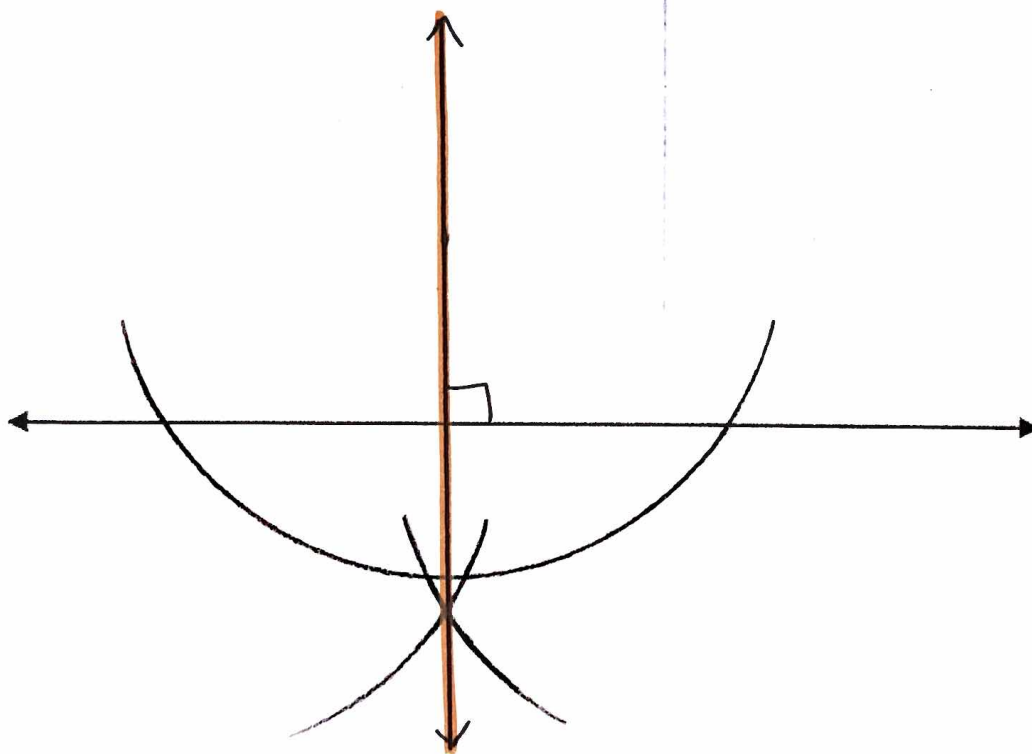
Complete the questions #1-7 on a separate sheet of paper. You may do the constructions on this sheet.
Show all work as if it were the actual exam.

Questions on this review sheet are similar to what you may encounter on the exam.

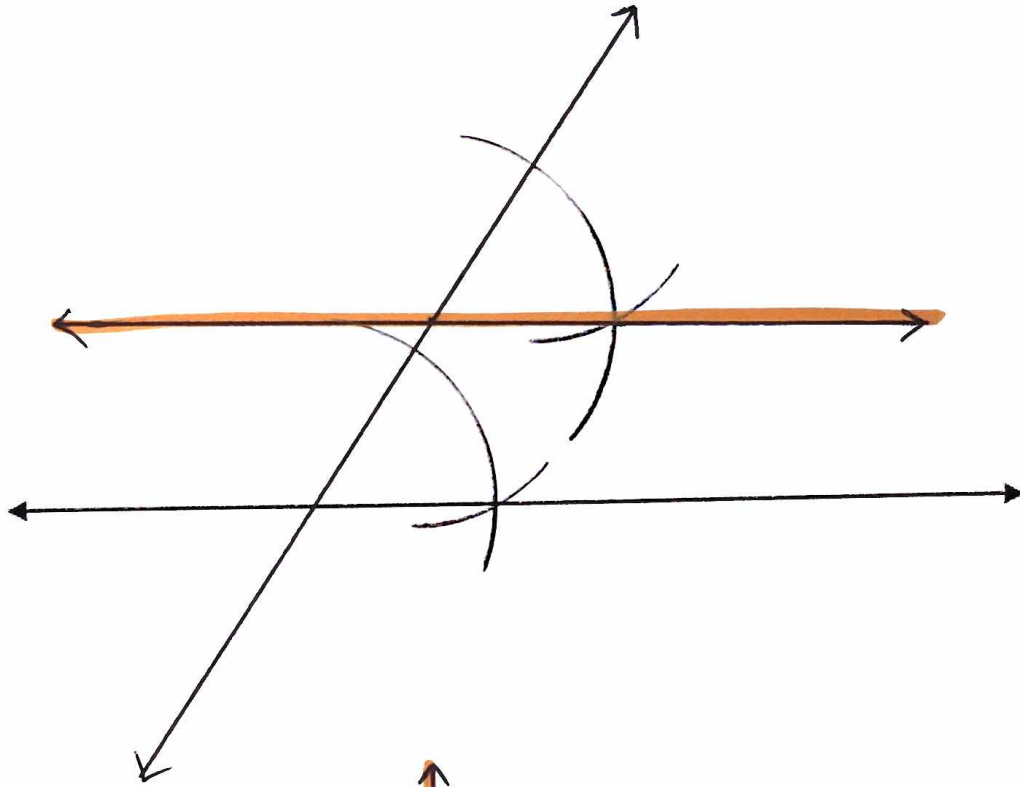
You may use a calculator.

CHECK YOUR ANSWERS ON THE CLASSROOM WEBSITE!

1. A line through $(-1, b)$ and $(c, 8)$ is parallel to a line through $(-6, 3)$ and $(0, 12)$. Find the values of b and c that make the statement true.
2. Find the distance between $(-10, -4)$ and $5x - y = 6$
3. Write the equation of the line, in standard form, passing through $(-6, 7)$ and $(9, 25)$
4. Write the equation of the line, in standard form, passing through $(-7, 6)$ and having an x -intercept of -3 .
5. Write the equation of the line, in standard form, of the vertical line passing through $(5, -4)$
6. Write the equation of the line, in standard form, of the line perpendicular to $x + 3y = 7$ and with the same y -intercept as $5x - y = 6$
7. Write the equation, in standard form, for the perpendicular bisector of the segment whose endpoints are $(2, 5)$ and $(-6, -1)$
8. Use a compass and a straightedge to drop a perpendicular from the given point to the given line.



9. Use a compass and a straightedge to construct a line parallel to the given line through the given point.



10. Use a compass and a straightedge to construct a line perpendicular to the given line that passes through the given point on the line.

