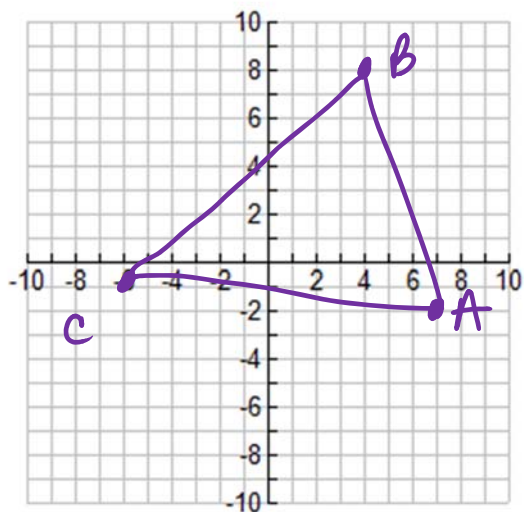


Geometry Honors

13.2 Practice

Use the triangle with vertices A(7,-2), B(4,8), and C(-6,-1) to answer the following questions.



1a. Write the equation of the median from A in point slope form.

$$\text{mid pt} = (-1, 3.5)$$

$$m_{\overline{A, \text{Mid}}} = \frac{-2 - 3.5}{7 - (-1)} = \frac{-5.5}{8} = -\frac{11}{16}$$

$$y + 2 = -\frac{11}{16}(x - 7)$$

1b. Convert to slope intercept form.

$$y + 2 = -\frac{11}{16}x + \frac{77}{16}$$

$$y = -\frac{11}{16}x + \frac{45}{16}$$

1c. Convert to standard form.

$$\frac{11}{16}x + y = \frac{45}{16}$$

2a. Write the equation of the altitude from C in point slope form.

$$m_{\overline{AB}} = \frac{8 - (-2)}{4 - 7} = \frac{10}{-3}$$

$$y + 1 = +\frac{3}{10}(x + 6)$$

2b. Convert to slope intercept form.

$$y + 1 = +\frac{3}{10}x + \frac{8}{10}$$

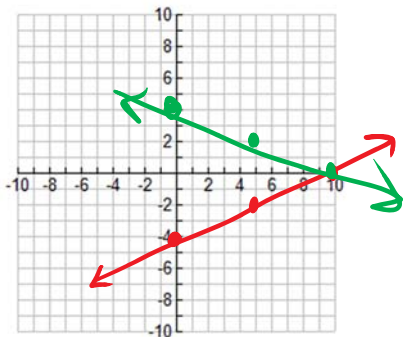
$$y = +\frac{3}{10}x + \frac{8}{10}$$

2c. Convert to standard form.

$$-\frac{3}{10}x + y = \frac{8}{10}$$

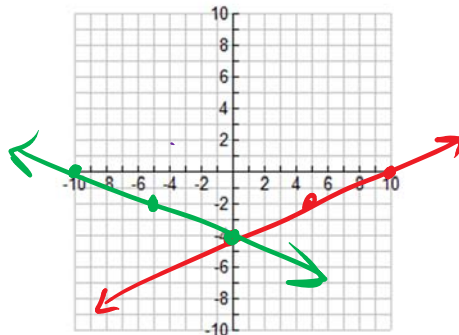
3. Find an equation of the reflection of the graph $y = \frac{2}{5}x - 4$ over

a. the x-axis



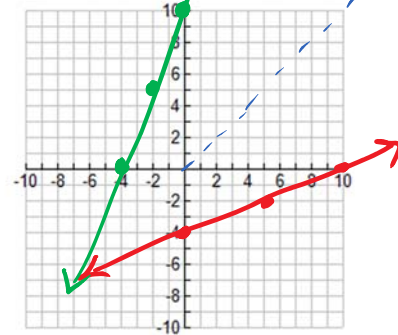
$$y = -\frac{2}{5}x + 4$$

b. the y-axis



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

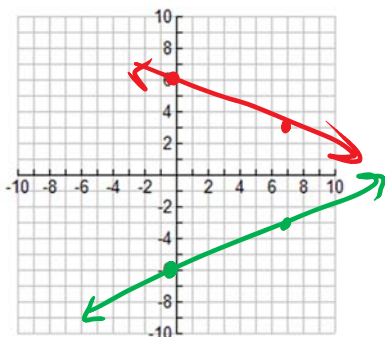
c. The line $y = x$



$$y = \frac{5}{2}x + 10$$

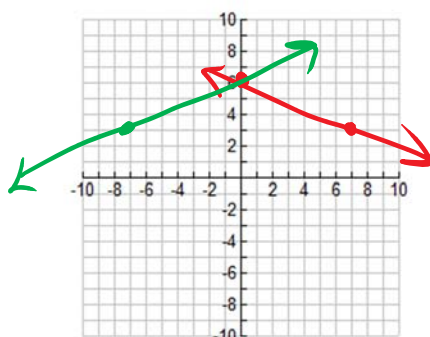
4. Find an equation of the reflection of the graph $y = -\frac{3}{7}x + 6$ over

a. the x-axis



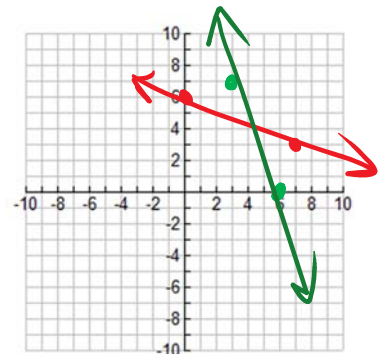
$$y = \frac{3}{7}x - 6$$

b. the y-axis



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

c. The line $y = x$



$$y - 7 = -\frac{7}{3}(x - 3)$$

5. Refer to the situation on the front side. WHERE does the altitude from C intersect \overline{AB} ?

Alt. $y = \frac{3}{10}x + \frac{8}{10}$

line \overline{AB}

$$y + 2 = -\frac{10}{3}(x - 7)$$

$$y = -\frac{10}{3}x + \frac{70}{3} - \frac{6}{3}$$

$$y = -\frac{10}{3}x + \frac{64}{3}$$

$$\left(\frac{3}{10}x + \frac{8}{10} = -\frac{10}{3}x + \frac{64}{3}\right) \cdot 30$$

$$9x + 24 = -100x + 640$$

$$109x = 616$$

$$x = \frac{616}{109}$$

$$y = \frac{272}{109}$$