**8.6 Classwork: Parallel & perpendicular slopes, applications HSG.GPE.B.5**

1. What is the slope of a line parallel to the line with the equation $y = 2x + 5$?

2. What is an equation of the line that passes through the point $(6, 8)$ and is parallel to a line with equation $y = \frac{3}{2}x + 5$?

   (a) $y - 8 = \frac{3}{2}(x - 6)$ (c) $y + 8 = \frac{3}{2}(x + 6)$

   (b) $y - 8 = -\frac{3}{2}(x - 6)$ (d) $y + 8 = -\frac{3}{2}(x + 6)$

3. What is an equation of the image of the line $y = \dfrac{3}{2}x - 4$ after a translation up 3?

4. What equation represents a line with a $y$-intercept of $b = 3$ that is perpendicular to the line represented by $y = \dfrac{2}{3}x + 1$?

5. Determine and state an equation of the line perpendicular to the line $5x - 4y = 10$ and passing through the point $(5, 12)$.

6. Write an equation of the line that is parallel to the line whose equation is $3y + 7 = 2x$ and passes through the point $(2, 6)$.

7. A translation maps $\overline{MN} \rightarrow \overline{M'N'}$. If $\overline{MN}$ is represented by $y = -3x + 6$, which equation can represent $\overline{M'N'}$, the image of $\overline{MN}$?

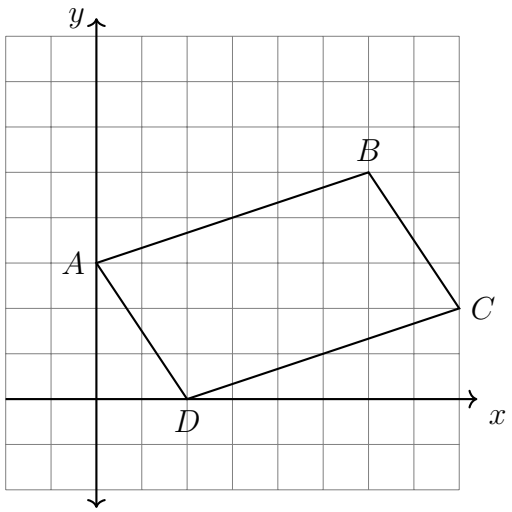
   (a) $y = -3x + 12$

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

   (c) $y = 3x + 12$

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

8. Show that quadrilateral $ABCD$ is a parallelogram. $A(0, 3)$, $B(6, 5)$, $C(8, 2)$, $D(2, 0)$




9. Show that triangle $ABC$ is a right triangle. $A(0, 3)$, $B(10, 8)$, $C(4, 0)$