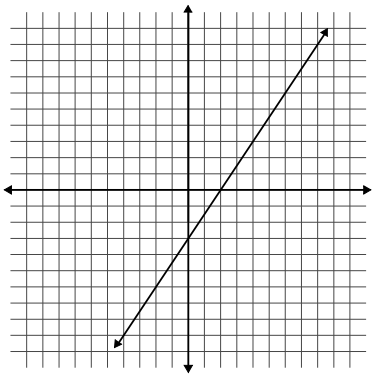
Graphing Linear Equations

1. A line is graphed below on an xy -plane. What is the equation of this line? *(no calculator)*



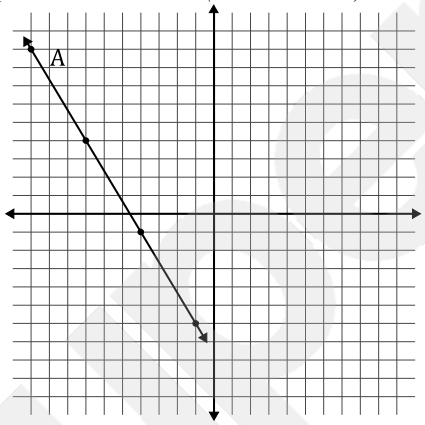
A) $y=\frac{2}{3}x-3$

B) $y=\frac{3}{2}x-3$

C) $y=\frac{2}{3}x+3$

D) $y=\frac{3}{2}x+3$

2. Line A is graphed in the xy -plane below. If the line is translated 3 units up and 5 units left, what is the slope of the new line? *(no calculator)*



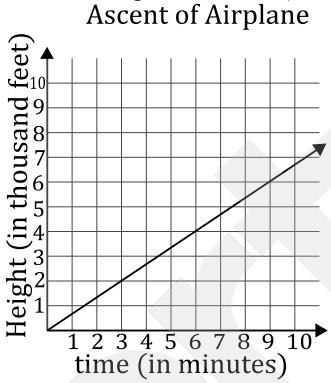
A) $-\frac{5}{3}$

B) $\frac{3}{5}$

C) $\frac{5}{3}$

D) $-\frac{3}{5}$

3. The graph below shows the ascent of an airplane h, in intervals of one thousand feet, correlated with the time of the flight. Which of the following functions correctly relate the height and time? *(no calculator)*



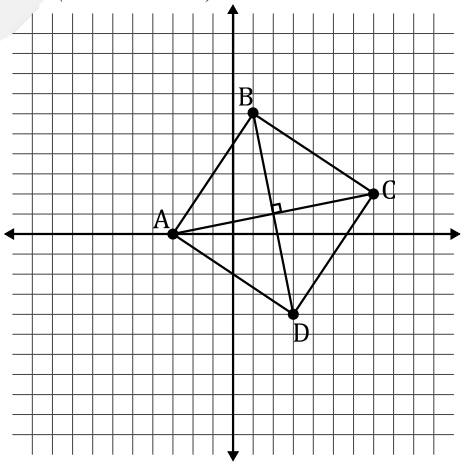
A) $y=5$

B) $y=\frac{2}{3}x$

C) $y=\frac{3}{2}x+5$

D) $y=x$

4. In rhombus ABCD, lines AC and BD are perpendicular to each other. Point A lies at $(-3,0)$ while point C lies at $(7,2)$. What is the slope of line BD? *(no calculator)*



A) $\frac{1}{5}$

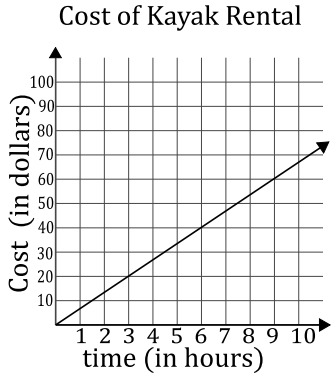
B) -5

C) -4

D) $-\frac{1}{5}$

5. Jim is planning on renting a kayak for a vacation. The graph below displays the total cost C , in dollars,

of renting a kayak for h hours. Which linear equation best represents this graph? *(no calculator)*



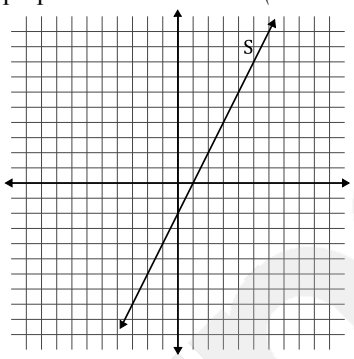
A) $y=-x$

B) $y=2x$

C) $y=-\frac{5}{4}x$

D) $y=\frac{20}{3}x$

6. Line S is shown in the xy -plane below. Which of the following is an equation of a line that is perpendicular to line S? *(no calculator)*



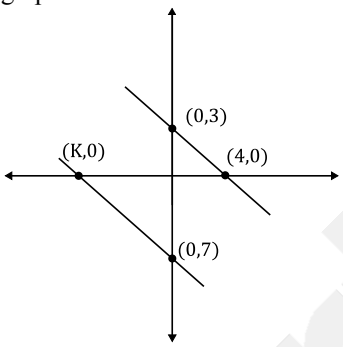
A) $y-2=-2\left(x+3\right)$

B) $y-4=-\frac{1}{2}\left(x+4\right)$

C) $y=-\frac{5}{2}\left(x+3\right)$

D) $y+3=4\left(x+3\right)$

7. In the xy -plane below, two parallel lines are graphed. What is the value of K? *(no calculator)*



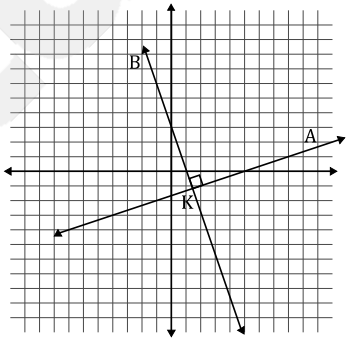
A) $-9\frac{1}{3}$

B) 4

C) -8

D) $-4\frac{2}{3}$

8. Lines A and B intersect at a 90-degree angle at point K. If the slope of line A is $\frac{1}{3}$, then which of the following is an equation of a line parallel to line B? *(no calculator)*



A) $y=-3x-4$

B) $y=-\frac{1}{3}x-\frac{2}{3}$

C) $y=-x+3$

D) $y=4x-1$

9. What linear equation, when graphed, will be parallel to $y=3x+12$? *(no calculator)*

A) $y=-3x+4$

B) $y+3=\frac{3}{2}\left(2x-1\right)$

C) $y=\frac{2}{5}x-1$

D) $y+2\frac{2}{3}=\frac{3}{2}\left(x-3\right)$