

Number & Algebra Assessment

ACMNA238 – Parallel and Perpendicular lines



Name: _____

Score: _____

Teacher: _____



Assessment



Navigator



Student



30 min

Q.1. Which one of the following is parallel to the line with equation: $y = 2x + 3$

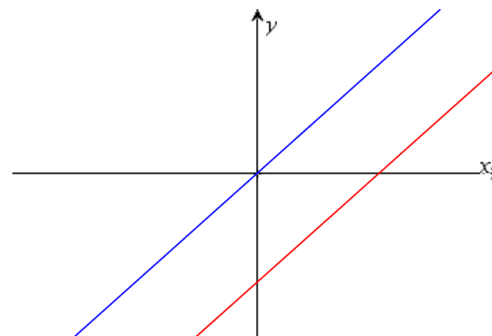
- a) $y = -\frac{1}{2}x + 2$ b) $y = x + 3$ c) $y = -2x + 1$ d) $y = 2x$ e) $y = \frac{1}{2}x + 1$

Q.2. Which one of the following pairs of equations are parallel?

- a) $y = 3x + 5$ b) $y = 2x + 4$ c) $y = 3x + 7$ d) $y = x + 5$ e) $y = 2x + 5$
 $y = 5x + 3$ $y = x + 4$ $y = 3x - 3$ $y = -x + 3$ $y = \frac{1}{2}x + 3$

Q.3. The graphs shown could have equations:

- a) $y = 2x - 3$ b) $y = 2x$
 $y = x$ $y = 2x + 3$
c) $y = 2x - 3$ d) $y = x$
 $y = -\frac{1}{2}x$ $y = x + 3$
e) $y = 2x$
 $y = 2x - 3$



Q.4. Determine the equation to the line parallel to $4x + 2y = 7$ passing through the point (2, 6) in the form $y =$

$$4x + 2y = c$$
$$4(2) + 2(6) = 20$$
$$4x + 2y = 20$$
$$y = -2x + 10$$

Q.5. The line AB passes through **A**:(2, 6) and **B**:(3, 8). Line CD is parallel to AB and passes through **C**:(2, 9) and **D**:(3, y). Determine the value of y.

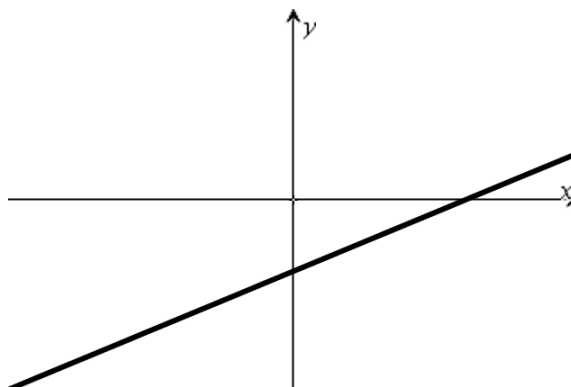
$$y = 11$$

Q.6. Which line is perpendicular to: $y = 2x - 1$

- a) $y = -\frac{1}{2}x + 3$ b) $y = -2x - 1$ c) $y = \frac{1}{2}x - 1$ d) $y = 2x - 1$ e) $y = \frac{1}{2}x + 1$

Q.7. A perpendicular line sharing the same x axis intercept could be:

- a) $y = 2x + 3$ b) $y = 2x - 3$
 c) $y = -x$ d) $y = -2x + 3$
 e) $y = \frac{1}{2}x + 3$



Q.8. Determine the equation to the line perpendicular to: $y = \frac{1}{3}x + 4$ passing through the point $(2, 1)$

$$y = -3(x - 2) + 1$$

$$y = -3x + 7$$

Q.9. Which line is perpendicular to: $y = 3x - 1$

- a) $x + 3y = 12$ b) $-3x + y = 1$ c) $y - 3x - 1 = 0$ d) $y - 3x = -1$ e) $3x + y = -1$

Q.10. Three lines are given as **AB**: $y = m_1x + 2$, **CD**: $y = m_2x - 1$ and **EF**: $y = m_3x + 1$. If **EF** is perpendicular to **AB** and parallel to **CD**. Which **one or more** of the following must be true:

- a) $m_1 \cdot m_2 = -1$ b) $m_1 \cdot m_3 = -1$ c) $m_2 \cdot m_3 = -1$ d) $m_2 = m_3$ e) $m_1 \cdot m_2 \cdot m_3 = -1$