

Station D: Slope and equations of perpendicular lines

1. What is the slope of a line perpendicular to the line whose equation is $y = -\frac{2}{3}x - 5$?

2. What is the slope of a line perpendicular to the line whose equation is $3x - 7y + 14 = 0$?
(1) $-\frac{7}{3}$ (2) $\frac{3}{7}$ (3) 3 (4) $-\frac{1}{3}$

3. The lines whose equations are $2x + 3y = 4$ and $y = mx + 6$ will be perpendicular when m is
(1) $-\frac{3}{2}$ (2) $-\frac{2}{3}$ (3) $\frac{3}{2}$ (4) $\frac{2}{3}$

4. Which equation represents a line that is perpendicular to the line represented by $2x - y = 7$?
(1) $y = -\frac{1}{2}x + 6$ (2) $y = \frac{1}{2}x + 6$
(3) $y = -2x + 6$ (4) $y = 2x + 6$

5. What is an equation of the line with y-intercept -15 and is perpendicular to the line whose equation is $y = \frac{1}{3}x + 6$?
(1) $y = \frac{1}{3}x + 15$ (2) $y = -3x - 15$
(3) $y = \frac{1}{3}x - 13$ (4) $y = -3x + 27$

6. Which equation represents a line that is perpendicular to the line whose equation is $3x - 2y = 7$?
(1) $y = -\frac{3}{2}x + 5$ (2) $y = -\frac{2}{3}x + 4$
(3) $y = \frac{3}{2}x - 5$ (4) $y = \frac{2}{3}x - 4$

7. What is an equation of the line that contains the point (3,-1) and is perpendicular to the line whose equation is $y = -3x + 2$?

8. An equation of a line perpendicular to the line represented by the equation $y = -\frac{1}{2}x - 5$ and passing through $(6, -4)$ is

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

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

(3) $y = 2x + 14$

(4) $y = 2x - 16$

9. Write an equation of the line that is perpendicular to the line whose equation is $2y = 3x + 12$ and that passes through the origin.

Station E: Slope and equations of parallel lines

10. What is the slope of a line parallel to the line whose equation is $2y = -6x + 8$?
- (1) -3
(2) $\frac{1}{6}$
(3) $\frac{1}{3}$
(4) -6
11. The equation of a line is $3y + 2x = 12$. What is the slope of the line parallel to the given line?
- (1) $\frac{2}{3}$ (2) $\frac{3}{2}$ (3) $-\frac{2}{3}$ (4) $-\frac{3}{2}$
12. What is the slope of a line that whose equation is $3x + 4y = 12$?
- (1) $\frac{3}{4}$ (2) $-\frac{3}{4}$ (3) $\frac{4}{3}$ (4) $-\frac{4}{3}$
13. Two lines are represented by the equations $-\frac{1}{2}y = 6x + 10$ and $y = mx$. For which value of m will the lines be parallel?
- (1) -12 (2) -3 (3) 3 (4) 12
14. What is the slope of a line parallel to the line whose equation is $y = -\frac{2}{3}x - 5$?
15. What is the slope of the line parallel to the line represented by the equation $2x + 4y = 12$?
- (1) -2 (2) 2 (3) $-\frac{1}{2}$ (4) $\frac{1}{2}$

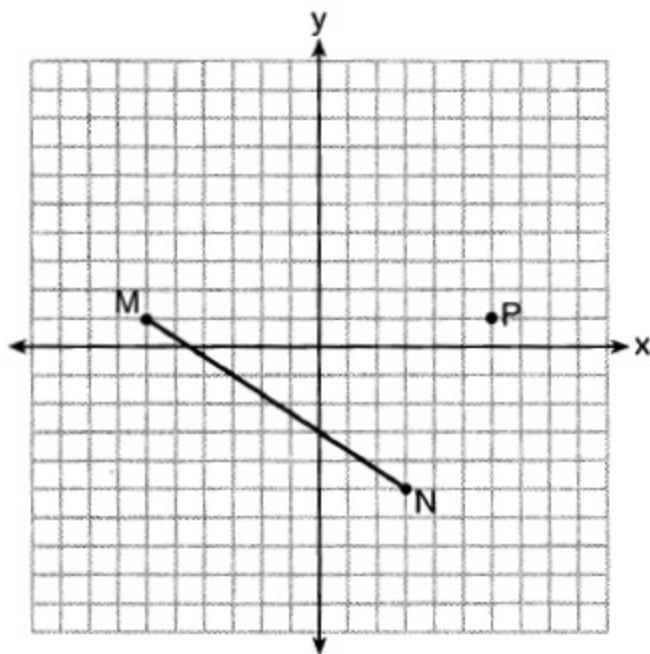
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Exam Review - Stations

16. Which equation represents a line that passes through the point $(-2, 6)$ and is parallel to the line whose equation is $3x - 4y = 6$?

(1) $3x + 4y = 18$ (2) $4x + 3y = 10$
(3) $-3x + 4y = 30$ (4) $-4x + 3y = 26$

17. Given \overline{MN} shown below, with $M(-6, 1)$ and $N(3, -5)$, what is an equation of the line that passes through point $P(6, 1)$ and is parallel to \overline{MN} ?



(1) $y = -\frac{2}{3}x + 5$ (2) $y = -\frac{2}{3}x - 3$
(3) $y = \frac{3}{2}x + 7$ (4) $y = \frac{3}{2}x - 8$

18. Write an equation of a line that is parallel to the line whose equation is $3y = x + 6$ and that passes through the point $(-3, 4)$.

19. What is an equation of the line that passes through the point $(-2, 3)$ and is parallel to the line whose equation is $y = \frac{3}{2}x - 4$?

(1) $y = \frac{3}{2}x + 6$ (2) $y = -\frac{2}{3}x$
(3) $y = -\frac{2}{3}x + \frac{5}{3}$ (4) $y = \frac{3}{2}x$