Name _____ Date _____
Mr. Schlansky Geometry

Linear Equations Through a Point Multiple Choice

1. What is the equation of a line that passes through the point $(-3,-11)$ and is parallel to the line whose equation is $2x-y=4$?

1) $y=2x+5$
2) $y=2x-5$
3) $y=\frac{1}{2}x+\frac{25}{2}$
4) $y=-\frac{1}{2}x-\frac{25}{2}$

2. What is an equation of the line that passes through the point $(-2,5)$ and is perpendicular to the line whose equation is $y=\frac{1}{2}x+5$?

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

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

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

4. An equation of the line that passes through $(2,-1)$ and is parallel to the line $2y+3x=8$ is

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

5. What is an equation of the line that is perpendicular to the line whose equation is $y = \frac{3}{5}x - 2$ and that passes through the point $(3, -6)$?

1) $y = \frac{5}{3}x - 11$

2) $y = -\frac{5}{3}x + 11$

3) $y = -\frac{5}{3}x - 1$

4) $y = \frac{5}{3}x + 1$

6. The equation of a line is $y = \frac{2}{3}x + 5$. What is an equation of the line that is perpendicular to the given line and that passes through the point $(4, 2)$?

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

2) $y = \frac{3}{2}x - 4$

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

4) $y = -\frac{3}{2}x + 8$

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

1) $y - 8 = \frac{3}{2}(x - 6)$

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

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

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

8. What is an equation of a line which passes through $(6, 9)$ and is perpendicular to the line whose equation is $4x - 6y = 15$?

1) $y - 9 = -\frac{3}{2}(x - 6)$

2) $y - 9 = \frac{2}{3}(x - 6)$

3) $y + 9 = -\frac{3}{2}(x + 6)$

4) $y + 9 = \frac{2}{3}(x + 6)$

9. What is an equation of a line that is perpendicular to the line whose equation is $2y = 3x - 10$ and passes through $(-6, 1)$?

1) $y = -\frac{2}{3}x - 5$

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

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

4) $y = \frac{2}{3}x + 10$

10. Which equation represents the line that passes through the point $(-2, 2)$ and is parallel to $y = \frac{1}{2}x + 8$?

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

2) $y = -2x - 3$

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

4) $y = -2x + 3$

11. What is an equation of the line that passes through the point $(7, 3)$ and is parallel to the line $4x + 2y = 10$?

1) $y - 3 = \frac{1}{2}(x - 7)$

2) $y - 3 = -2(x - 7)$

3) $y + 3 = \frac{1}{2}(x + 7)$

4) $y + 3 = -2(x + 7)$

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

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

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

4) $y = \frac{3}{2}x + 6$

13. Write the equation of a line perpendicular to $4y+3x=10$ that passes through $(-1,0)$.

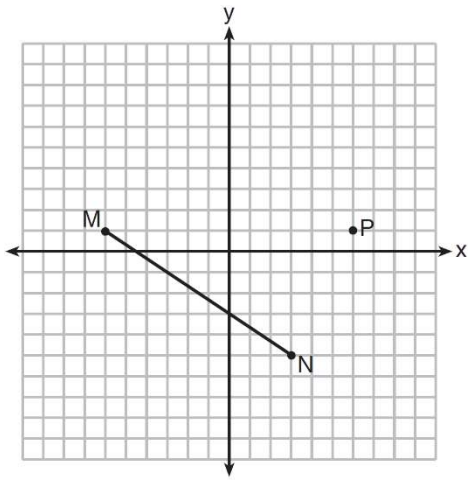
1) $y=-\frac{3}{4}(x+1)$

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

3) $y+1=-\frac{3}{4}x$

4) $y+1=\frac{4}{3}x$

14. 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) $y=\frac{3}{2}x-8$