Name: _____

G.GPE.B.5: Parallel and Perpendicular Lines 4

1 What is the slope of a line perpendicular to the line whose equation is $y = 3x + 4$?

1) $\frac{1}{3}$ 2) $-\frac{1}{3}$ 3) 3 4) -3

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

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

3 What is the slope of a line perpendicular to the line whose equation is $2y = -6x + 8$?

1) -3 2) $\frac{1}{6}$ 3) $\frac{1}{3}$ 4) -6

4 What is the slope of a line perpendicular to the line whose equation is $5x + 3y = 8$?

1) $\frac{5}{3}$ 2) $\frac{3}{5}$ 3) $-\frac{3}{5}$ 4) $-\frac{5}{3}$

5 What is the slope of a line that is perpendicular to the line whose equation is $3x + 5y = 4$?

1) $-\frac{3}{5}$ 2) $\frac{3}{5}$ 3) $-\frac{5}{3}$ 4) $\frac{5}{3}$

6 The equation of a line is $3x - 5y = 8$. All lines perpendicular to this line must have a slope of

1) $\frac{3}{5}$ 2) $\frac{5}{3}$ 3) $-\frac{3}{5}$ 4) $-\frac{5}{3}$

7 What is the slope of a line that is perpendicular to the line whose equation is $3x + 4y = 12$?

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

8 What is the slope of a line that is perpendicular to the line represented by the equation $x + 2y = 3$?

1) -2 2) 2 3) $-\frac{1}{2}$ 4) $\frac{1}{2}$

9 What is the slope of the line perpendicular to the line represented by the equation $2x + 4y = 12$?

1) -2 2) 2 3) $-\frac{1}{2}$ 4) $\frac{1}{2}$

10 What is the slope of a line perpendicular to the line whose equation is $20x - 2y = 6$?

1) -10 2) $-\frac{1}{10}$ 3) 10 4) $\frac{1}{10}$

11 What is the slope of a line perpendicular to the line whose equation is $3x - 7y + 14 = 0$?

1) $\frac{3}{7}$ 2) $-\frac{7}{3}$ 3) 3 4) $-\frac{1}{3}$

12 The equation of a line is $3y + 2x = 12$. What is the slope of the line perpendicular to the given line?

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

13 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) $\frac{2}{3}$

14 Find the slope of a line perpendicular to the line whose equation is $2y - 6x = 4$.

15 The slope of $\overline{QR}$ is $\frac{x-1}{4}$ and the slope of $\overline{ST}$ is $\frac{8}{3}$. If $\overline{QR} \perp \overline{ST}$, determine and state the value of x.

G.GPE.B.5: Parallel and Perpendicular Lines 4
Answer Section

1 ANS: 2 REF: 061022ge

2 ANS: 4

The slope of $y = -\frac{2}{3}x - 5$ is $-\frac{2}{3}$. Perpendicular lines have slope that are opposite reciprocals.

REF: 080917ge

3 ANS: 3

$2y = -6x + 8$ Perpendicular lines have slope the opposite and reciprocal of each other.

$y = -3x + 4$

$m = -3$

$m_{\perp} = \frac{1}{3}$

REF: 081024ge

4 ANS: 2

The slope of a line in standard form is $-\frac{A}{B}$ so the slope of this line is $-\frac{5}{3}$ Perpendicular lines have slope that are the opposite and reciprocal of each other.

REF: fall0828ge

5 ANS: 4

The slope of $3x + 5y = 4$ is $m = \frac{-A}{B} = \frac{-3}{5}$. $m_{\perp} = \frac{5}{3}$.

REF: 061127ge

6 ANS: 4

The slope of a line in standard form is $-\frac{A}{B}$ so the slope of this line is $\frac{3}{5}$ Perpendicular lines have slope that are the opposite and reciprocal of each other.

REF: 012313geo

7 ANS: 3

$m = \frac{-A}{B} = -\frac{3}{4}$

REF: 011025ge

8 ANS: 2

The slope of $x + 2y = 3$ is $m = \frac{-A}{B} = \frac{-1}{2}$. $m_{\perp} = 2$.

REF: 081122ge

9 ANS: 2

The slope of $2x + 4y = 12$ is $m = \frac{-A}{B} = \frac{-2}{4} = -\frac{1}{2}$. $m_{\perp} = 2$.

REF: 011310ge

10 ANS: 2

$m = \frac{-A}{B} = \frac{-20}{-2} = 10$. $m_{\perp} = -\frac{1}{10}$

REF: 061219ge

11 ANS: 2

$m = \frac{-A}{B} = \frac{-3}{-7} = \frac{3}{7}$ $m_{\perp} = -\frac{7}{3}$

REF: 081414ge

12 ANS: 2

$m = \frac{-A}{B} = \frac{-2}{3}$ $m_{\perp} = \frac{3}{2}$

REF: 061417ge

13 ANS: 3

$m = \frac{-A}{B} = \frac{-2}{3}$ $m_{\perp} = \frac{3}{2}$

REF: 011610ge

14 ANS:

$m = \frac{-A}{B} = \frac{6}{2} = 3$. $m_{\perp} = -\frac{1}{3}$.

REF: 011134ge

15 ANS:

$\frac{x-1}{4} = \frac{-3}{8}$

$8x - 8 = -12$

$8x = -4$

$x = -\frac{1}{2}$

REF: 011534ge