Name: _____

G.GPE.B.5 Parallel and Perpendicular Lines 2

1 Which properties best describe the coordinate graph of two distinct parallel lines?
1) same slopes and same intercepts
2) same slopes and different intercepts
3) different slopes and same intercepts
4) different slopes and different intercepts

2 If two lines are parallel and the slope of one of the lines is m, what is the product of their slopes?
1) 1
2) $2m$
3) m^2
4) 0

3 Segment RS is parallel to segment TU. If the slope of $\overline{RS} = \frac{5}{8}$ and the slope of $\overline{TU} = \frac{x}{24}$, the value of x is
1) 20
2) 15
3) 10
4) 5

4 Which equation represents a line that is parallel to the line $y = -4x + 5$?
1) $y = -4x + 3$
2) $y = -\frac{1}{4}x + 5$
3) $y = \frac{1}{4}x + 3$
4) $y = 4x + 5$

5 Which equation represents a line parallel to the line $y = 2x - 5$?
1) $y = 2x + 5$
2) $y = -\frac{1}{2}x - 5$
3) $y = 5x - 2$
4) $y = -2x - 5$

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

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

8 Which equation represents a line that is parallel to the line $y = 3 - 2x$?
1) $4x + 2y = 5$
2) $2x + 4y = 1$
3) $y = 3 - 4x$
4) $y = 4x - 2$

9 What is the equation of a line that is parallel to the line whose equation is $y = x + 2$?
1) $x + y = 5$
2) $2x + y = -2$
3) $y - x = -1$
4) $y - 2x = 3$

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10 Which equation represents a line parallel to the graph of $2x - 4y = 16$?

1) $y = \frac{1}{2}x - 5$
2) $y = -\frac{1}{2}x + 4$
3) $y = -2x + 6$
4) $y = 2x + 8$

11 Which equation represents a line that is parallel 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) $y = \frac{2}{3}x - 4$

12 Which equation represents a line that is parallel to the line whose equation is $2x - 3y = 9$?

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

13 Which equation represents a line that is parallel to the line whose equation is $2x + 3y = 12$?

1) $6y - 4x = 2$
2) $6y + 4x = 2$
3) $4x - 6y = 2$
4) $6x + 4y = -2$

14 Which equation represents a line parallel to the line whose equation is $2y - 5x = 10$?

1) $5y - 2x = 25$
2) $5y + 2x = 10$
3) $4y - 10x = 12$
4) $2y + 10x = 8$

15 The graphs of the equations $y = 2x - 7$ and $y - kx = 7$ are parallel when k equals

1) -2
2) 2
3) -7
4) 7

16 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

17 Which pair of linear equations represents parallel lines?

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

   $y = 2x + 4$
2) $x + y = 5$

   $-x + y = 4$
3) $y = 5x + 1$

   $y = -5x + 7$
4) $2x + y = 4$

   $y + 2x = 8$

G.GPE.B.5 Parallel and Perpendicular Lines 2
Answer Section

1 ANS: 2 REF: 060105a

2 ANS: 3

If two lines are parallel, they have equal slope. $m \times m = m^2$.

REF: 060210a

3 ANS: 2

$\frac{5}{8} = \frac{x}{24}$

$x = 15$

REF: 060801a

4 ANS: 1

The slope of both is –4.

REF: 060814ia

5 ANS: 1

The slope of both is 2.

REF: 080009a

6 ANS: 1

$m = -3$

REF: 081307ia

7 ANS: 3

$m = -3$ $\frac{-A}{B} = \frac{-6}{2} = -3$

REF: 081427ia

8 ANS: 1

The slope of $y = 3 - 2x$ is –2. Using $m = -\frac{A}{B}$, the slope of $4x + 2y = 5$ is $-\frac{4}{2} = -2$.

REF: 010926ia

9 ANS: 3

The slope of $y = x + 2$ is 1. The slope of $y - x = -1$ is $\frac{-A}{B} = \frac{-(-1)}{1} = 1$.

REF: 080909ge

10 ANS: 1

The slope of $2x - 4y = 16$ is $\frac{-A}{B} = \frac{-2}{-4} = \frac{1}{2}$

REF: 011026ia

11 ANS: 3

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

REF: 011324ge

12 ANS: 1

Using $m = -\frac{A}{B}$, the slope of $2x - 3y = 9$ is $\frac{2}{3}$.

REF: 011322ia

13 ANS: 2

Using $m = -\frac{A}{B}$, the slope of both $2x + 3y = 12$ and $6y + 4x = 2$ is $-\frac{2}{3}$.

REF: 010522a

14 ANS: 3

$m = \frac{-A}{B} = \frac{5}{2}$. $m = \frac{-A}{B} = \frac{10}{4} = \frac{5}{2}$

REF: 011014ge

15 ANS: 2

$y - kx = 7$ may be rewritten as $y = kx + 7$

REF: 061015ia

16 ANS: 1

$-2\left(-\frac{1}{2}y = 6x + 10\right)$

$y = -12x - 20$

REF: 061027ge

17 ANS: 4

The slope of both is -2.

REF: 061611ia