A.A.38: Parallel and Perpendicular Lines: Determine if two lines are parallel, given their equations in any form

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

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

3 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) $y = 4x - 2$

4 Which equation represents a line parallel to the graph of $2x - 4y = 16$?
   1) $y = \dfrac{1}{2}x - 5$
   2) $y = -\dfrac{1}{2}x + 4$
   3) $y = -2x + 6$
   4) $y = 2x + 8$

5 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) $6x + 4y = -2$

6 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

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Answer Section

1 ANS: 1
   The slope of both is −4.

   PTS: 2   REF: 060814ia
2 ANS: 1
   The slope of both is 2.

   PTS: 2   REF: 080009a
3 ANS: 1
   The slope of $y = 3 - 2x$ is –2. Using $m = -\dfrac{A}{B}$, the slope of $4x + 2y = 5$ is $-\dfrac{4}{2} = -2$.

   PTS: 2   REF: 010926ia
4 ANS: 1
   The slope of $2x - 4y = 16$ is $\dfrac{-A}{B} = \dfrac{-2}{-4} = \dfrac{1}{2}$

   PTS: 2   REF: 011026ia
5 ANS: 2
   Using $m = -\dfrac{A}{B}$, the slope of both $2x + 3y = 12$ and $6y + 4x = 2$ is $-\dfrac{2}{3}$.

   PTS: 2   REF: 010522a
6 ANS: 2
   $y - kx = 7$ may be rewritten as $y = kx + 7$

   PTS: 2   REF: 061015ia