Heart of Algebra Drill 6

For each question in this section, solve the problem and circle the letter of the answer that you think is the best of the choices given.

1. If $2s + 10r = 2(2s - 5r) = 42$, then what is the value of r ?

   A) 0
   B) 1
   C) 1.4
   D) 14

2. Line m contains the points (4, 16) and (0, 8). At what point will line m intersect with line n if the equation of line n is $-8x + 4y = 24$?

   A) (0,0)
   B) (–4, 0)
   C) These lines do not intersect
   D) These lines intersect at infinite number of points

3. If $q = p - 3$, and $(4p + 4)/(2q) = 10$, what is the value of p ?

   A) 1
   B) 2
   C) 3
   D) 4

4. A yoga studio charges \$8 dollars per student for its morning class and \$16 dollars per student for its evening class. Three times as many students attended the evening class as attended the morning class. If the yoga studio earned \$2,520 on Friday, how many people attended the morning class?

   A) 15
   B) 45
   C) 56
   D) 135

5. If $x - y = 4$ and $2x + 3y = 10$, what is the value of $3x + 2y$?

A) 4
B) 6
C) 10
D) 14

$$4x - 1y = 10$$
$$-4x + 1y = -10$$

6. Based on the system of equations above, which of the following must be true?

A) There is no solution to this system of equations.
B) (2, 10)
C) (20, –5)
D) There is an infinite number of solutions to this system.

$$2x - 3y = 17$$
$$-2x + 4y = -20$$

7. Based on the system of equations above, which of the following is a possible solution?

A) (–4, –3)
B) (–3, 4)
C) (3, 4)
D) (4, –3)