

1. Solve the following system of equation on the set of the real numbers!

$$3x - 4y = 0$$

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

2. Solve the following equations on the set of the rational numbers!

(a)

$$\frac{1}{7x} + \frac{1}{4y} = \frac{4}{7}$$

$$\frac{1}{x} + \frac{1}{3y} = \frac{7}{6}$$

(b)

$$\frac{4}{3x} - \frac{5}{6y} = \frac{1}{6}$$

$$\frac{7}{4y} + \frac{5}{8y} = \frac{9}{16}$$

3. A and B starting at the same time from two points 22 miles apart walk toward each other and meet in 2 hours and 45 minutes. If A had walked twice as fast, they would have met in 2 hours. At what rate did B walk?
4. A number between 10 and 100 is four times the sum of its digits, and if 27 is added to the number the digits will be reversed. Find the number.
5. Dan's age next year will be twice what Marvin's age was 5 years ago; and four times Marvin's age is 8 years more than three times what Dan's age was 3 years ago. Find their present ages.