From the first $2x + 2 = y$

$$2x = y - 2 \text{ and } x = \frac{y-2}{2}$$

From the second $\quad 3x = y + 3 \text{ and } x = \frac{y+3}{3}$

$$\therefore \frac{y-2}{2} = \frac{y+3}{3}$$

$$3y - 6 = 2y + 6$$

$$y = 12$$

and $x = \dfrac{y-2}{2} = \dfrac{10}{2} = 5$

and the fraction is therefore $\frac{5}{12}$.

EXERCISE XVII.

1. Find a number such that $\frac{3}{4}$ of it shall exceed $\frac{1}{5}$ of it by 3.

2. What number is that which being divided by 3, and 6 added to the quotient, and the sum then multiplied by 4 gives 60 ?

3. I bought wood at \$4.50 per cord; if the amount I laid out had enabled me to purchase 10 cords more, it would have cost me only \$3.00 per cord. How many cords did I purchase ?

4. I paid an account amounting to \$114.00 in English sovereigns (at \$5.00 each), American half-dollars, and Canadian twenty cent pieces, using an equal number of each coin; what was the number ?

5. The sum of two numbers is 23; one-third the greater added to the less is equal to 13. What are the numbers ?

6. What two numbers are those whose sum is 14, and difference 4 ?