

$$x : y = 4 : 5$$

$$x + y = 54$$

$$(x + y) : x = (4 + 5) : 4$$

$$54 : x = 9 : 4$$

$$x = \frac{54 \cdot 4}{9} = 24$$

$$y = (x + y) - x = 54 - 24 = 30$$

$$x : y = 7 : 5$$

$$x + y = 96$$

$$(x + y) : x = (7 + 5) : 7$$

$$96 : x = 12 : 7$$

$$x = \frac{96 \cdot 7}{12} = 56$$

$$y = (x + y) - x = 96 - 56 = 40$$

$$\overline{x : y = 5 : 15} \qquad \overline{x + y = 12}$$

$$(x + y) : x = (5 + 15) : 5$$

$$12 : x = 20 : 5$$

$$x = \frac{12 \cdot 5}{20} = 3$$

$$y = (x + y) - x = 12 - 3 = 9$$

$$x : 4 = y : 7$$

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$$x : y = 4 : 7$$

$$(x+y) : x = (4+7) : 4$$

$$33 : x = 11 : 4$$

$$x = \frac{33 \cdot 4}{11} = 12$$

$$y = (x+y) - x = 33 - 12 = 21$$

$$x+y=33$$

$$x : y = \frac{3}{5} : \frac{1}{15}$$

$$x + y = \frac{40}{9}$$

$$(x+y) : x = \left(\frac{3}{5} + \frac{1}{15}\right) : \frac{3}{5}$$

$$\frac{40}{9} : x = \left(\frac{3+1}{15}\right) : \frac{3}{5}$$

$$\frac{40}{9} : x = \frac{10}{15} : \frac{3}{5}$$

$$x = \frac{\frac{40}{9} \cdot \frac{3}{5}}{\frac{10}{15}} = \frac{4}{3} \cdot \frac{3}{8} = 4$$

$$y = (x+y) - x = \frac{40}{9} - 4 = \frac{40-36}{9} = \frac{4}{9}$$

$$x:y = 13:6$$

$$x-y = \frac{14}{15}$$

$$(x-y):x = (13-6):13$$

$$\frac{14}{15}:x = 7:13$$

$$x = \frac{\frac{14}{15} \cdot 13}{7} = \frac{14}{15} \cdot \frac{13}{1} \cdot \frac{1}{7} = \frac{26}{15}$$

$$y = x - (x-y) = \frac{26}{15} - \frac{14}{15} = \frac{26-14}{15} = \frac{12}{15}$$