



General practice

QT Solving Equations

Solve the following equations:

a. $x + 3 = 15$

$$\begin{array}{r} -3 \qquad -3 \\ x + 3 = 15 \\ \hline x = 12 \end{array}$$

b. $x - 4 = 12$

$$\begin{array}{r} +4 \qquad +4 \\ x - 4 = 12 \\ \hline x = 16 \end{array}$$

c. $2x = 24$

$$\begin{array}{r} \div 2 \qquad \div 2 \\ 2x = 24 \\ \hline x = 12 \end{array}$$

d. $x - 12 = 15$

$$\begin{array}{r} +12 \qquad +12 \\ x - 12 = 15 \\ \hline x = 27 \end{array}$$

e. $\frac{x}{2} - 3 = 9$

$$\begin{array}{r} +3 \qquad +3 \\ \frac{x}{2} - 3 = 9 \\ \hline \frac{x}{2} = 12 \\ +2 \qquad +2 \\ x = \cancel{24} \quad 24 \\ \hline x = 24 \end{array}$$

f. $4x + 4 = 20$

$$\begin{array}{r} -4 \qquad -4 \\ 4x + 4 = 20 \\ \hline 4x = 16 \\ \div 4 \qquad \div 4 \\ x = 4 \\ \hline x = 4 \end{array}$$

g. $5x + 3 = 2x + 9$

$$\begin{array}{r} -2x \qquad -2x \\ 5x + 3 = 2x + 9 \\ \hline 3x + 3 = 9 \\ -3 \qquad -3 \\ 3x = 6 \\ \div 3 \qquad \div 3 \\ x = 2 \\ \hline x = 2 \end{array}$$

h. $6x - 1 = 15 + 2x$

$$\begin{array}{r} -2x \qquad -2x \\ 6x - 1 = 15 + 2x \\ \hline 4x - 1 = 15 \\ +1 \qquad +1 \\ 4x = 16 \\ \div 4 \qquad \div 4 \\ x = 4 \\ \hline x = 4 \end{array}$$



i. $3(x+2) = x+4$

$$\begin{array}{r} 3x+6 = x+4 \\ -x \qquad -x \\ \hline 2x+6 = 4 \\ -6 \qquad -6 \\ \hline 2x = -2 \\ \div 2 \qquad \div 2 \\ \hline \underline{x = -1} \end{array}$$

j. $2(x-1) = 6(2x+2)$

$$\begin{array}{r} 2x-2 = 12x+12 \\ -2x \qquad -2x \\ \hline -2 = 10x+12 \\ -12 \qquad -12 \\ \hline -14 = 10x \\ \div 10 \qquad \div 10 \\ \hline \underline{-1.4 = x} \end{array}$$

k. $10-2x = 2x-6$

$$\begin{array}{r} 10 = 4x-6 \\ +6 \qquad +6 \\ \hline 16 = 4x \\ \div 4 \qquad \div 4 \\ \hline \underline{4 = x} \end{array}$$

l. $8x+18 = 2x+26$

$$\begin{array}{r} 8x+18 = 2x+26 \\ -2x \qquad -2x \\ \hline 6x+18 = 26 \\ -18 \qquad -18 \\ \hline 6x = 8 \\ \div 6 \qquad \div 6 \\ \hline x = \frac{8}{6} \\ = \frac{4}{3} \\ = 1.\bar{3} \end{array}$$

m. $10x-19 = 5x-14$

$$\begin{array}{r} 5x-19 = -14 \\ +19 \qquad +19 \\ \hline 5x = 5 \\ \div 5 \qquad \div 5 \\ \hline \underline{x = 1} \end{array}$$

n. $2x+10 = 6x-22$

$$\begin{array}{r} 2x+10 = 6x-22 \\ -2x \qquad -2x \\ \hline 10 = 4x-22 \\ +22 \qquad +22 \\ \hline 32 = 4x \\ \div 4 \qquad \div 4 \\ \hline \underline{8 = x} \end{array}$$