In each of these cases rearrange to make x the subject:

1. $y = x - 4$
2. $y = 4x + 5$
3. $y = \frac{x}{6} + 2$
4. $m = 2x^2$
5. $gh = \frac{1}{3 + 4x}$
6. $w = 4v + \sqrt{3u}$
7. $\frac{m-3}{2} = (x+4)^2$
8. $p = \frac{3 - 4x}{4 + 2x}$

Answers:

1. $y = x - 4$ (+4)
   $y + 4 = x$

2. $y = 4x + 5$ (−5)
   $y - 5 = 4x$ (÷4)
   $\frac{y-5}{4} = x$

3. $y = \frac{x}{6} + 2$ (-2)
   $y - 2 = \frac{x}{6}$ (×6)
   $6(y-2) = x$ (expand)
   $6y - 12 = x$

4. $m = 2x^2$ (÷2)
   $\frac{m}{2} = x^2$ ($\sqrt{\ }$)
   $\sqrt{\frac{m}{2}} = x$

5. $gh = \frac{1}{3+4x}$ swop $gh \rightleftarrows (3+4x)$
   $3 + 4x = \frac{1}{gh}$ (-3)
   $4x = \frac{1}{gh} - 3$ (÷4)
   $x = \left(\frac{1}{gh} - 3\right) \div 4$ (change to $\times \frac{1}{4}$)
   $x = \frac{1}{4}\left(\frac{1}{gh} - 3\right)$ (expand bracket)
   $x = \frac{1}{4gh} - \frac{3}{4}$

6. $w = 4v + \sqrt{3u}$ $(-4v)$
   $w - 4v = \sqrt{3u}$ (square)
   $(w-4v)^2 = 3u$ (÷3)
   $\frac{(w-4v)^2}{3} = x$

7. $\frac{m-3}{2} = (x+4)^2$ ($\sqrt{\ }$ both sides)
   $\pm\sqrt{\frac{m-3}{2}} = x + 4$ (-4)
   $\pm\sqrt{\frac{m-3}{2}} - 4 = x$

8. $p = \frac{3-4x}{4+2x}$ $(\times\ 4+2x)$
   $p(4+2x) = 3 - 4x$ (expand bracket)
   $4p + 2px = 3 - 4x$ (collect like terms)
   $2px + 4x = 3 - 4p$ (factorise left-hand side)
   $x(2p+4) = 3 - 4p$ (÷ 2p+4)
   $x = \frac{3-4p}{2p+4}$