Solve Quadratics

Solve each equation. Some of them may have radicals in their solutions.

a) $8 - c^2 = 5$

b) $3(x - 2)^2 = 9$

c) $6 = 24(\boldsymbol{x} + 1)^2$

d) $(d + 4)^2 = 5$

e) $4(g - 1)^2 + 6 = 13$

f) $12 = -2(5 - \boldsymbol{k})^2 + 20$

Solve Quadratics

Solve each equation. Some of them may have radicals in their solutions.

a) $8 - c^2 = 5$

$-c^2 = -3$

$c^2 = 3$

$c = \pm\sqrt{3}$

b) $3(x-2)^2 = 9$

$(x-2)^2 = 3$

$x - 2 = \pm\sqrt{3}$

$x = 2 \pm \sqrt{3}$

c) $6 = 24(x+1)^2$

$(x+1)^2 = \frac{6}{24} = \frac{1}{4}$

$x + 1 = \pm\sqrt{\frac{1}{4}} = \pm\frac{1}{2}$

$x = -1 \pm \frac{1}{2}$

$x = -\frac{1}{2}$ *or* $-\frac{3}{2}$

d) $(d+4)^2 = 5$

$d + 4 = \pm\sqrt{5}$

$d = -4 \pm \sqrt{5}$

e) $4(g-1)^2 + 6 = 13$

$4(g-1)^2 = 7$

$(g-1)^2 = \frac{7}{4}$

$g - 1 = \pm\frac{\sqrt{7}}{2}$

$g = 1 \pm \frac{\sqrt{7}}{2}$

f) $12 = -2(5-k)^2 + 20$

$-8 = -2(5-k)^2$

$4 = (5-k)^2$

$(5-k) = \pm 2$

$-k = -5 \pm 2 = -3$ *or* -7

$k = 3$ *or* 7