

Non-Calculator

Solve by factoring, completing the square, taking the square root,

(F) 8) $6x^2 + 5x = 4$
 $\quad \quad \quad -4 \quad -4$

G $6x^2 + 5x - 4 = 0$

QF $\begin{array}{r} 8x^2 - 24x - 5 \\ \hline 5 \end{array}$

$2x - 1$
 $\begin{array}{|c|c|} \hline 6x^2 & -3x \\ \hline 8x & -4 \\ \hline \end{array}$

$(2x-1)(3x+4) = 0$

$2x-1=0 \quad 3x+4=0$

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

$3x=-4$
 $x = -\frac{4}{3}$

9) $x^2 - 6x - 3 = 0$

$x^2 - 6x = 3$

QF

(CTS) $(-\frac{6}{2})^2 \quad x^2 - 6x + 9 = 3 + 9$

$(-3)^2 \quad (x-3)^2 = 12$

$9 \quad \sqrt{\quad} \quad \sqrt{\quad}$
 $x-3 = \pm\sqrt{12}$

$x = 3 \pm \sqrt{12} \xrightarrow{4} 3$

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

10) $4x^2 + 72 = 0$

QF

(V's)

$-72 \quad -72$

$4x^2 = -72$
 $\quad \quad \quad 4$

$x^2 = -18$
 $\sqrt{\quad} \quad \sqrt{\quad}$

$x = \pm\sqrt{-18} \xrightarrow{-1} 9 \xrightarrow{2}$

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

11) $2x = -x^2$

(F) $+x^2 \quad +x^2$

QF $x^2 + 2x = 0$

CTS $x(x+2) = 0$

$x = 0$

$x+2=0$
 $x = -2$