

SOLVING EQUATIONS BY FACTORING

- A. Set the equation so that one side is equal to zero.
 - B. Factor the other side completely.
 - C. Set each factor equal to zero and solve each.
 - D. Check and write your solution set.
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EX:

$$X^2 - 16X = 0$$

B. $X(X-16) = 0$

C. $X = 0$ $X-16 = 0$
 $X = 16$

D. $\{0, 16\}$

EX:

$$W^2 = 2W + 15$$
$$-2W - 15 \quad -2W - 15$$

A. $W^2 - 2W - 15 = 0$

B. $(W + 3)(W - 5) = 0$

C. $W + 3 = 0$ $W - 5 = 0$
 $W = -3$ $W = 5$

D. $\{-3, 5\}$

EX:

$$(X + 5)(X + 2) = 4$$
$$-4 \quad -4$$

A. $(X + 5)(X + 2) - 4 = 0$
 $X^2 + 2X + 5X + 10 - 4 = 0$

B. $X^2 + 7X + 6 = 0$
 $(X + 1)(X + 6) = 0$

C. $X + 1 = 0$ $X + 6 = 0$
 $X = -1$ $X = -6$

D. $\{-1, -6\}$