

Name : \_\_\_\_\_

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Date : \_\_\_\_\_

### Solve Quadratics by Factoring

Find all possible values of the given variable.

$$\begin{aligned} 1) \quad r^2 + 9r &= 0 & 0^2 + 9(0) &= \\ & & (-9)^2 + 9(-9) &= \\ r(r+9) &= 0 & 81 - 81 &= 0 \\ r=0 \quad r+9 &= 0 \\ r &= -9 \end{aligned}$$

$$6) \quad h^2 + 10h + 24 = 0$$

$$\begin{aligned} 2) \quad x^2 + 8x + 7 &= 0 \\ (x+7)(x+1) &= 0 \\ x+7=0 \quad x+1 &= 0 \\ x=-7 \quad x &= -1 \end{aligned}$$

$$7) \quad b^2 - 8b = 0$$

$$\begin{aligned} 3) \quad r^2 - 19r + 90 &= 0 \\ (r-9)(r-10) &= 0 \\ r-9=0 \quad r-10 &= 0 \\ r=9 \quad r &= 10 \end{aligned}$$

$$\begin{aligned} 8) \quad p^2 + 5p &= 0 \\ p(p+5) &= 0 \end{aligned}$$

$$\begin{aligned} p=0 \quad p+5 &= 0 \\ p &= -5 \end{aligned}$$

$$4) \quad h^2 - 2h = 0$$

$$9) \quad y^2 + 5y - 66 = 0 \quad \frac{-66}{11 \cdot -6}$$

$$(y+11)(y-6) = 0$$

$$y+11=0 \quad y-6=0$$

$$y=-11 \quad y=6$$

$$5) \quad r^2 + 11r = 0$$

$$10) \quad x^2 - 3x - 10 = 0$$

