Review 10.2

Solve.

a. $x^2 = 16$

$\sqrt{x^2} = \pm\sqrt{16}$ (4, 4)

$x = \pm 4$

b. $x^2 = 75$

$\sqrt{x^2} = \pm\sqrt{75}$ (3, 25)

$x = \pm 5\sqrt{3}$

$x = 5\sqrt{3}, -5\sqrt{3}$

c. $x^2 = \frac{4}{49}$

$\sqrt{x^2} = \pm\sqrt{\frac{4}{49}}$

$x = \pm\frac{2}{7}$

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d. $\frac{121x^2}{121} = \frac{49}{121}$

$x^2 = \frac{49}{121}$

$\sqrt{x^2} = \pm\sqrt{\frac{49}{121}}$

$x = \pm\frac{7}{11}$

e. $\frac{2x^2}{2} = \frac{56}{2}$

$x^2 = 28$

$\sqrt{x^2} = \pm\sqrt{28}$ $4 < 7$

$x = \pm 2\sqrt{7} \approx \pm 2.65$

f. $(x-2)^2 - 36 = 0$

$+36 \quad +36$

$(x-2)^2 = 36$

$\sqrt{(x-2)^2} = \pm\sqrt{36}$

$x - 2 = \pm 6$

$+2 \quad +2$

$x = 2 \pm 6$ $\quad 2+6=8$, $\quad 2-6=-4$

$x = 8, -4$

g. $(x-3)^2 + 7 = 25$

$-7 \quad -7$

$(x-3)^2 = 18$

$\sqrt{(x-3)^2} = \pm\sqrt{18}$ (2) $< 9 <$ (3) (3)

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

$+3 \quad +3$

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

h. $\frac{3(x+5)^2}{3} = \frac{21}{3}$

$(x+5)^2 = 7$

$\sqrt{(x+5)^2} = \pm\sqrt{7}$

$x + 5 = \pm\sqrt{7}$

$-5 \quad -5$

$x = -5 \pm \sqrt{7}$

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