## Section 7.1 Focus Exercises

1. Use the Zero Product Principle to solve each equation.
a) $(x+3)(x-7)=0$
b) $(x-2)(x-4)=0$
c) $(4 x-5)(2 x+9)=0$
d) $(2 x+3)(5 x-6)=0$
e) $\quad-2 x(x+5)=0$
f) $3 x(9 x-5)=0$
g) $(x+8)(x-8)=0$
h) $(2 x-3)(2 x+3)=0$
2. Factor the polynomial and use the Zero Product Principle to solve each equation.
a) $\mathrm{x}^{2}-25=0$
b) $x^{2}-49=0$
c) $6 x^{2}-54 x=0$
d) $-3 x^{2}+12 x=0$
3. Factor the polynomial and use the Zero product Principle to solve each equation.
a) $x^{2}-9 x+20=0$
b) $x^{2}+12 x+35=0$
c) $\mathrm{x}^{2}-\mathrm{x}-90=0$
d) $x^{2}+x-42=0$
e) $4 x^{2}+7 x-15=0$
f) $2 x^{2}-13 x+15=0$
g) $4 x^{2}-9 x-9=0$
h) $6 x^{2}+14 x+4=0$
4. Solve each quadratic equation by first having one side become 0 . Check your answers to verify that they are solutions.
a) $x^{2}+2 x-4=59$
b) $x^{3}+23 x^{2}=50 x$
c) $(x+6)(x-7)=-40$
d) $x^{2}-4 x=3 x-10$
e) $x=3 x^{2}-10$
f) $x^{2}-x=18-4 x$
