

Section 5.6 Practice Master**1. Factor.**

- a) $x^2 - 25$
- b) $y^2 - 49$
- c) $9k^2 - 1$
- d) $16k^2 - 49$
- e) $25w^2 - 36$
- f) $4 - 9w^2$

2. Factor.

- a) $x^2 - y^2$
- b) $36x^2 - y^2$
- c) $25r^2 - 36s^2$
- d) $144r^2 - 49s^2$
- e) $121x^2 - 9y^2$
- f) $100r^2 - 81s^2$

3. Factor.

- a) $x^2 + 14x + 49$
- b) $x^2 - 6x + 9$
- c) $x^2 - 8x + 16$
- d) $100 - 20x + x^2$
- e) $4x^2 - 12xy + 9y^2$
- f) $49x^2 + 56xy + 16y^2$

4. Factor fully, if possible.

- a) $2a^2 + 12a + 18$
- b) $25x^2 - 16y$
- c) $75x^2 + 210xy + 147y^2$
- d) $9x^3y - 16xy^3$
- e) $36m^2 - 96mn + 64n^2$
- f) $20x^2 + 20xy + 5y^2$

5. Determine the value(s) of b so that each trinomial is a perfect square.

- a) $bx^2 + 10xy + y^2$
- b) $36x^2 - bxy + 49y^2$

6. Determine two values of k so that each trinomial can be factored as a difference of squares.

- a) $25x^2 - ky^2$
- b) $kx^2 - 16$

7. Factor, if possible.

- a) $(5c + 3)^2 - (2c + 1)^2$
- b) $100 + (x - 3)^2$
- c) $9x^2 + 8x + 25$
- d) $25x^2y^2 - 150xyab + 225a^2b^2$

8. A parabola has equation $y = 4x^2 + 32x + 64$. Rewrite the equation in factored form to find the coordinates of the vertex.**9. Find an algebraic expression for the area of the shaded region in factored form.**