

Section 5.3 Review Worksheet KEY

Factor.

1. $x^2 - 3x - 4$
 $= (x+1)(x-4)$

2. $2x^2 + 9x - 5$
 $= (2x-1)(x+5)$

3. $6x^2 - x - 40$
 $= (3x-8)(2x+5)$

4. $12x^2 - 28x - 5$
 $= (2x-5)(6x+1)$

5. $x^2 - 64$
 $= (x-8)(x+8)$

6. $9x^2 - 24x + 16$
 $= (3x-4)^2$

7. $3x^2 - 6x - 24$
 $= 3(x^2 - 2x - 8)$
 $= 3(x-4)(x+2)$

8. $72x^2 + 156x - 96$
 $= 12(6x^2 + 13x - 8)$
 $= 12(3x+8)(2x-1)$

9. $16x^4 - 81$
 $= (4x^2 - 9)(4x^2 + 9)$
 $= (2x-3)(2x+3)(4x^2 + 9)$

Solve.

10. $2x^2 + 4x - 6 = 0$
 $2(x^2 + 2x - 3) = 0$
 $2(x+3)(x-1) = 0$
 $x = -3, 1$

11. $9x = 5 - 2x^2$
 $2x^2 + 9x - 5 = 0$
 $(2x-1)(x+5) = 0$
 $x = \frac{1}{2}, -5$

12. $4y^2 + y - 1 = 2$
 $4y^2 + y - 3 = 0$
 $(4y-3)(y+1) = 0$
 $y = \frac{3}{4}, -1$

13. $2x^2 + 3x = 20$
 $2x^2 + 3x - 20 = 0$
 $(2x-5)(x+4) = 0$
 $x = \frac{5}{2}, -4$

14. $9x^2 - 30 = -3x$
 $9x^2 + 3x - 30 = 0$
 $3(3x^2 + x - 10) = 0$
 $3(3x-5)(x+2) = 0$
 $x = \frac{5}{3}, -2$

15. $45x^2 - 120x + 80 = 0$
 $5(9x^2 - 24x + 16) = 0$
 $5(3x-4)^2 = 0$
 $x = \frac{4}{3}$