

Exercises 6.2

31. $2x, 4a, -x, -2a$
 $= 4a - 2a + 2x - x$
 $= 2a + x$
32. $m, -3c, -6m, 4c$
 $= -3c + 4c + m - 6m$
 $= c - 5m$
33. $4z, -z, -w, +4w$
 $= -w + 4w + 4z - z$
 $= 3w + 3z$
34. $5r, -\frac{3}{4}t, -2r, -\frac{1}{4}t$
 $= 5r - 2r - \frac{3}{4}t - \frac{1}{4}t$
 $= 3r - t$
35. $\frac{1}{2}p, -\frac{2}{3}q, -\frac{1}{2}p, \frac{1}{6}q$
 $= \frac{1}{2}p - \frac{1}{2}p - \frac{2}{3}q + \frac{1}{6}q$
 $= -\frac{1}{2}q$
36. $d, .4b, -.5b, .6$
 $= .4b - .5b + d + .6$
 $= -.1b + d + .6$
37. $x^2, 2xy, y^2, -3x^2, -4xy, 4y^2$
 $= x^2 - 3x^2 + 2xy - 4xy + y^2 + 4y^2$
 $= -2x^2 - 2xy + 5y^2$
38. $2r^2, rs, 3s^2, -4r^2, +5rs, 6s^2$
 $= 2r^2 - 4r^2 + rs + 5rs + 3s^2 + 6s^2$
 $= -2r^2 + 6rs + 9s^2$

Exercises 6.3

13. $2a - 3b + 2b - 3c + 5c - 4a + 10a - 5b + 7b - 3c$
 $= 2a - 4a + 10a - 3b + 2b - 5b + 7b - 3c + 5c - 3c$
 $= 8a + b - c$
14. $x + y + z + x - y + z + y - z - x + z - x - y + x - z$
 $= x + x - x - x + x + y - y + y - y + z + z - z + z - z$
 $= x + z$
15. $4x^3 - 2x^2 - 7x + 1 + x^3 + 3x^2 + 5x - 6 + 4x^2 - 8x^3 + 2 - 6x + 2x^3 - 2x^2$
 $= 4x^3 + x^3 - 8x^3 + 2x^3 + 2x^3 - 2x^2 + 3x^2 + 4x^2 - 2x^2 - 3x^2 - 7x + 5x$
 $= x^3 - 2x + 2$
16. $5x - 3y - 2z + 4y - 2x + 6z + 3a - 2x - 4y + 4b - 2z - 5y + a - 5b + 5y$
 $= 3a + a - 5a + 4b - 5b - 2b + 4b + 5x - 2x - 2x - 6x + 8x + 6x - 3y + 4y$
 $= -a + b + 9x - 2y$
17. $.2x^3 - 4x^2 + x + 2 + .4x^2 - 4x + .4 - x^3 + 3.5x - .6 + 3x^2 + 2x^3 + 1$
 $= .2x^3 - x^3 + 2x^3 + .8x^3 - 4x^2 + .4x^2 + 3x^2 + 1.2x^2 + x - 4x + 3.5x$
 $= 2x^3 + .6x^2 + 2.8$