18.

$$-2(4g - 3) = 30$$
$$-2(4g) - 2(-3) = 30$$
$$-8g + 6 = 30$$
$$\underline{\; -6 \qquad -6}$$
$$-8g = 24$$
$$\frac{-8g}{-8} = \frac{24}{-8}$$
$$g = -3$$

Check: $-2(4g - 3) = 30$
$$-2[4(-3) - 3] \overset{?}{=} 30$$
$$-2(-12 - 3) \overset{?}{=} 30$$
$$-2(-15) \overset{?}{=} 30$$
$$30 = 30 \checkmark$$

The solution is $g = -3$.

19.
$$6 + 5(m + 1) = 26$$
$$6 + 5(m) + 5(1) = 26$$
$$6 + 5m + 5 = 26$$
$$5m + 11 = 26$$
$$\underline{-11 \quad -11}$$
$$5m = 15$$
$$\frac{5m}{5} = \frac{15}{5}$$
$$m = 3$$

Check: $6 + 5(m + 1) = 26$
$$6 + 5(3 + 1) \overset{?}{=} 26$$
$$6 + 5(4) \overset{?}{=} 26$$
$$6 + 20 \overset{?}{=} 26$$
$$26 = 26 \checkmark$$

The solution is $m = 3$.

20.
$$5h + 2(11 - h) = -5$$
$$5h + 2(11) - 2(h) = -5$$
$$5h + 22 - 2h = -5$$
$$3h + 22 = -5$$
$$\underline{-22 \quad -22}$$
$$3h = -27$$
$$\frac{3h}{3} = \frac{-27}{3}$$
$$h = -9$$

Check: $5h + 2(11 - h) = -5$
$$5(-9) + 2[11 - (-9)] \overset{?}{=} -5$$
$$-45 + 2(11 + 9) \overset{?}{=} -5$$
$$-45 + 2(20) \overset{?}{=} -5$$
$$-45 + 40 \overset{?}{=} -5$$
$$-5 = -5 \checkmark$$

The solution is $h = -9$.

21. $27 = 3c - 3(6 - 2c)$

$\quad 27 = 3c - 3(6) - 3(-2c)$

$\quad 27 = 3c - 18 + 6c$

$\quad 27 = 9c - 18$

$\quad \underline{+\,18 \qquad +\,18}$

$\quad 45 = 9c$

$\quad \dfrac{45}{9} = \dfrac{9c}{9}$

$\quad 5 = c$

Check: $27 = 3c - 3(6 - 2c)$

$\quad 27 \overset{?}{=} 3(5) - 3[6 - 2(5)]$

$\quad 27 \overset{?}{=} 15 - 3(6 - 10)$

$\quad 27 \overset{?}{=} 15 - 3(-4)$

$\quad 27 \overset{?}{=} 15 + 12$

$\quad 27 = 27\ \checkmark$

The solution is $c = 5$.

22. $-3 = 12y - 5(2y - 7)$

$\quad -3 = 12y - 5(2y) - 5(-7)$

$\quad -3 = 12y - 10y + 35$

$\quad -3 = 2y + 35$

$\quad \underline{-\,35 \qquad -\,35}$

$\quad -38 = 2y$

$\quad \dfrac{-38}{2} = \dfrac{2y}{2}$

$\quad -19 = y$

Check: $-3 = 12y - 5(2y - 7)$

$\quad -3 \overset{?}{=} 12(-19) - 5[2(-19) - 7]$

$\quad -3 \overset{?}{=} -228 - 5(-38 - 7)$

$\quad -3 \overset{?}{=} -228 - 5(-45)$

$\quad -3 \overset{?}{=} -228 + 225$

$\quad -3 = -3\ \checkmark$

The solution is $y = -19$.

23. $-3(3 + x) + 4(x - 6) = -4$

$\quad -3(3) + (-3)(x) + 4(x) - 4(6) = -4$

$\quad -9 - 3x + 4x - 24 = -4$

$\quad x - 33 = -4$

$\quad \underline{+\,33 \qquad +\,33}$

$\quad x = 29$

Check: $-3(3 + x) + 4(x - 6) = -4$

$\quad -3(3 + 29) + 4(29 - 6) \overset{?}{=} -4$

$\quad -3(32) + 4(23) \overset{?}{=} -4$

$\quad -96 + 92 \overset{?}{=} -4$

$\quad -4 = -4\ \checkmark$

The solution is $x = 29$.

24. $5(r + 9) - 2(1 - r) = 1$

$\quad 5(r) + 5(9) - 2(1) - 2(-r) = 1$

$\quad 5r + 45 - 2 + 2r = 1$

$\quad 7r + 43 = 1$

$\quad \underline{-\,43 \qquad -\,43}$

$\quad 7r = -42$

$\quad \dfrac{7r}{7} = \dfrac{-42}{7}$

$\quad r = -6$

Check: $5(r + 9) - 2(1 - r) = 1$

$\quad 5(-6 + 9) - 2[1 - (-6)] \overset{?}{=} 1$

$\quad 5(3) - 2(1 + 6) \overset{?}{=} 1$

$\quad 15 - 2(7) \overset{?}{=} 1$

$\quad 15 - 14 \overset{?}{=} 1$

$\quad 1 = 1\ \checkmark$

The solution is $r = -6$.

25. $45 + 2k + k = 180$

$\quad 3k + 45 = 180$

$\quad \underline{-\,45 \qquad -\,45}$

$\quad 3k = 135$

$\quad \dfrac{3k}{3} = \dfrac{135}{3}$

$\quad k = 45$

So, $k = 45$ and the measures of the angles of the triangle are $45°$, $2k° = 2 \cdot 45 = 90°$, and $k° = 45°$.

26.
$$a + 2a + a + 2a = 360$$
$$6a = 360$$
$$\frac{6a}{6} = \frac{360}{6}$$
$$a = 60$$

So, $a = 60$ and the measures of the angles of the quadrilateral are $a° = 60°$, $2a° = 2 \cdot 60 = 120°$, $a° = 60°$, and $2a° = 2 \cdot 60 = 120°$.