2.17)

(a) $9 - 3 = 6$

(b) $9/4 + 7/4 = 4$

(c) $3(9) = 27$

(d) $2^6 = 64$

2.18)

(a) $-(-7) + 4 = 11$

(b) $(5-t)^2 / (t+6) = (5-(-7))^2 / -1$

$= \frac{12^2}{-1} = -144$

(c) $\frac{t^5}{t^3} = t^2 = (-7)^2 = 49$

(d) $2(-7)^2 - 3(-7)/7 + 8$

$98 + 3 + 8 = 109$

2.19)

(a) p^{15} (b) $24x^{10}$

2.20)

$3y^5 \times A = 36y^8$

$A = 12y^3$

2.21)

(a) x^{20} (b) $16k^4 \cdot 27k^6 = 432k^{10}$ (c) $\sqrt{48t^3} = 22t^4\sqrt{t}$

(d) $\sqrt[3]{243y^{12}} = 3y^4\sqrt[3]{9}$

2.22)

(a) $\frac{1}{r^4} = r^{-4}$

(b) $\frac{16t^3}{14t^3} = \frac{8}{7}$

(c) $r^{4/3} \cdot (r^{1/3})^2 = r^{4/3} \cdot r^{2/3} = r^2$

* (d) $\frac{(-8v^4)(2v^3)}{(4v^2)(8v^3)} = \frac{-2v^2}{3}$

(e) $(4r^5)^{1/2}(81r^3)^{-1/2} = 2r^{5/2} \cdot \frac{1}{9r^{7/2}} = \frac{2r^{-2/2}}{9} = \frac{2}{9r}$

* (f) $\frac{3r^2}{2r^3} \cdot \frac{3r^2}{5r^2} \cdot \frac{r^6}{3r^2} = \frac{3r^2}{5}$

2.23)

(a) $(-2)^{-3} = \frac{1}{(-2)^3} = \frac{1}{-8} = -\frac{1}{8}$

(b) $\frac{1}{4^{-2}} = 4^2 = 16$

(c) $\frac{6^{-1} r^{-3} r^2}{r^5} = \frac{r^{-1}}{r^5 \cdot r \cdot 6} = \frac{1}{6r^6}$

(d) $\frac{x^7}{9}$

2.24)

(a) $16\left(\frac{x}{2} - \frac{3}{4}\right) = 8x - 12$

(b) $2x^2 - 3x^3 = -3x^3 + 2x^2$

2.25)

$x^2 + 9 + 1 = x^2 + 10$

2.26)

(a) $(7 - 3x) + (5x - 8)$

(b) $y^3 - y^2 - 7$

$2x - 1$

2.27)

$$2(t^2 - 4t + 1) - t(t+7) = 2t^2 - 8t + 2 - t^2 - 7t$$
$$= t^2 - 15t + 2$$

2.28)

Jerri: $7x + 8 \rightarrow 14x + 16$

$$14x + 16 - (14x + 3) = 13$$

2.29)

(a) $x^4 - 6x = x(x^3 - 6)$

(b) $16r^3 - 4 = 4(4r^3 - 1)$

(c) $-24x^2 + 8x^5 = 8x^2(-3 + x^3)$

(d) $6v(7v^2 + 6v - 12)$

2.30)

(a) $7 - 6 = 1$

$1 \times 3 = 3$

$$3 + \frac{8(6) - 36}{2} = 3 + 6 = 9$$

(b) $(7 - x) \cdot 3 = -3x + 21$

$$-3x + 21 + \frac{8x - 36}{2} = -3x + 21 + 4x - 18$$
$$= x + 3$$

El resultado de la expresión es $x + 3$. Por lo tanto el número pensado es 3 menos que el resultado.

2.31)

(a) $2x(x^2-3)+5(x^2-3)$ (b) $(2\delta+7)(3-5\delta)$

$(x^2-3)(2x+5)$

2.32)

(a) $\dfrac{3(x^2-2)}{9} = \dfrac{x^2-2}{3}$

(b) $\dfrac{18(1-2x)}{2(1-2x)} = = 9$

(c) $\dfrac{a^3-a}{a^4-a^2} = \dfrac{a(a^2-1)}{a^2(a^2-1)} = \dfrac{1}{a}$

(d) $\dfrac{15z^3(z^2+z+1)}{12z(z^2+z+1)} = \dfrac{5z^2}{4} = \dfrac{5}{4}z^2$

2.33)

$\dfrac{\cancel{3}^{1}\cancel{x}(x-1)}{(4x-4)(\cancel{6}^{2}x^4)} = \dfrac{x-1}{4(x-1)(3x)} = \dfrac{1}{12x}$

2.34)

(a) $\dfrac{3x}{5} - \dfrac{11}{40x} = \dfrac{24x^2}{40x} - \dfrac{11}{40x} = \dfrac{24x^2-11}{40x}$

(b) $\dfrac{2-r^2}{5r} - \dfrac{r}{2} = \dfrac{4-2r^2}{10r} - \dfrac{5r^2}{10r} = \dfrac{-7r^2+4}{10r}$

(c) $\dfrac{2}{8z^3} - \dfrac{3-z}{2z^4} = \dfrac{2z}{8z^4} - \dfrac{12-4z}{8z^4} = \dfrac{6z-12}{8z^4}$

$$= \frac{\cancel{8}^{3}(z-2)}{\cancel{8}_{4} z^4} = \frac{3z-6}{4z^4}$$

(d) $$\frac{a(a^2-1)}{a^2-1} + \frac{1}{7a} = a + \frac{1}{7a} = \frac{7a^2}{7a} + \frac{1}{7a} = \frac{7a^2+1}{7a}$$

2.33)

$$\frac{1}{z^2+1} - \frac{1}{z^2}$$

$$\frac{z^2}{z^2(z^2+1)} - \frac{z^2+1}{z^2(z^2+1)} = -\frac{1}{z^2(z^2+1)}$$