Ejercicios

4.8.1) a) $4\frac{7}{8} - 1\frac{3}{4} = 3 + \frac{7}{8} - \frac{6}{8} = 3 + \frac{1}{8} = \boxed{3\frac{1}{8}}$

(b) $3\frac{1}{3} - 7\frac{2}{9} = 3 + \frac{1}{3} - 7 - \frac{2}{9}$

$= -4 + \frac{3}{9} - \frac{2}{9} = -4 + \frac{1}{9}$

$= -3 - \frac{8}{9} = \boxed{-\left(3\frac{8}{9}\right)}$

(c) $19\frac{3}{20} - 9\frac{13}{15} = 10 + \frac{9}{60} - \frac{52}{60}$

$= 10 - \frac{43}{60}$

$= 9 + \frac{17}{60} = \boxed{9\frac{17}{60}}$

(d) $18 - \left(6\frac{1}{2} + 5\frac{1}{3}\right) = 18 - \left(11 + \frac{3}{6} + \frac{2}{6}\right)$

$= 18 - \left(11 + \frac{5}{6}\right)$

$= 7 - \frac{5}{6}$

$= \boxed{6\frac{1}{6}}$

(e) $5\frac{5}{12} \cdot 24 = \left(5 + \frac{5}{12}\right) \cdot 24 = 120 + 10 = \boxed{130}$

(f) $1\frac{1}{2} \cdot \left(6\frac{2}{3} - 4\frac{4}{9}\right) = \frac{3}{2} \cdot \left(2 + \frac{6}{9} - \frac{4}{9}\right)$

$\frac{3}{2}\left(2 + \frac{2}{9}\right) = 3 + \frac{1}{3}$

$= \boxed{3\frac{1}{3}}$

(g) $5\frac{1}{3} + 2\frac{1}{3} \div 3\frac{1}{2} = 5\frac{1}{3} + \left(2+\frac{1}{3}\right) \div \left(7/2\right)$

$= 5\frac{1}{3} + \left(\frac{7}{3} \cdot \frac{2}{7}\right)$

$= 5\frac{1}{3} + \frac{2}{3} = 5 + \frac{3}{3} = \boxed{6}$

(h) $3\frac{2}{3} \div \left(-6\frac{7}{8}\right)$

$\frac{11}{3} \div \left(-\frac{48}{8} - \frac{7}{8}\right) = \frac{11}{3} \div \left(-\frac{55}{8}\right)$

$= \frac{11}{3} \cdot -\left(\frac{8}{55}\right) = \boxed{-\frac{8}{15}}$

4.8.2)

$2\frac{1}{2} + 3\frac{1}{3} + 4\frac{1}{4} + 5\frac{1}{5} + 6\frac{1}{6}$

$= 20 + \left(\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}\right)$

$= 20 + \left(\frac{3}{6} + \frac{2}{6} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}\right)$

$= 20 + \left(1 + \frac{1}{4} + \frac{1}{5}\right)$

$= 21 + \frac{1}{4} + \frac{1}{5}$. $\boxed{21}$

4.8.3)

$(7a^2 - 11a + 3)(3a - 4) \quad a = 1\frac{1}{3} = \frac{4}{3}$

$\left(7\left(\frac{16}{9}\right) - 11\left(\frac{4}{3}\right) + 3\right)\left(4 - 4\right) = (\cdots)(0) = \boxed{0}$

4.8.4)

$136\frac{3}{4} - 131\frac{7}{8} = 5 + \frac{3}{4} - \frac{7}{8}$

$= 5 + \frac{6}{8} - \frac{7}{8} = 5 - \frac{1}{8} = \boxed{4\frac{7}{8}}$

4.8.5)

$$3\left(2\tfrac{1}{2}\right) + 3\left(3\tfrac{1}{3}\right) = 6 + \tfrac{3}{2} + 9 + 1$$

$$= 16 + \tfrac{3}{2} = \boxed{17\tfrac{1}{2}}$$

4.8.6)

$$60 - 6\tfrac{1}{2} = 54 - \tfrac{1}{2} = \left(53 + \tfrac{1}{2}\right) \cdot \tfrac{1}{60}$$

$$= \frac{53}{60} + \frac{1}{120} = \frac{106}{120} + \frac{1}{120}$$

$$= \boxed{\frac{107}{120}}$$