

Def. Una fracción en su forma más simple tiene numerador y denominador sin divisores en común diferentes de 1.

Problemas (individual)

$$4.27) \frac{\overset{2}{\cancel{12}}}{\underset{5}{\cancel{30}}} = \boxed{\frac{2}{5}}$$

$$4.28) (ac) \div (bc) = a \div b$$

$$ac \cdot \frac{1}{bc} = a \cdot \frac{1}{b} \cdot \left(c \cdot \frac{1}{c}\right)$$

$$= a \cdot \frac{1}{b} = \frac{a}{b}$$

$$4.29) \frac{225}{540} = \frac{5 \cdot 45}{5 \cdot 108} = \frac{45}{108} = \frac{9 \cdot 5}{9 \cdot 12} = \boxed{\frac{5}{12}}$$

$$4.30) \text{ a) } \frac{\overset{3}{\cancel{8}}}{\underset{2}{\cancel{8}}} \cdot \frac{\overset{3}{\cancel{12}}}{\underset{4}{\cancel{8}}} = \boxed{\frac{9}{8}}$$

$$\text{ b) } \left(-\frac{\overset{1}{\cancel{24}}}{\underset{1}{\cancel{32}}}\right) \cdot \left(-\frac{\overset{3}{\cancel{9}}}{\underset{5}{\cancel{40}}}\right)$$

$$\boxed{\frac{3}{5}}$$

$$\text{ c) } \left(-\frac{\overset{1}{\cancel{40}}}{\underset{9}{\cancel{27}}}\right) \cdot \frac{\overset{7}{\cancel{21}}}{\underset{4}{\cancel{160}}}$$

$$\boxed{\frac{7}{36}}$$

$$\text{ d) } \frac{34}{33} \div \frac{51}{44} = \frac{\overset{2}{\cancel{34}}}{\underset{3}{\cancel{33}}} \cdot \frac{\overset{4}{\cancel{44}}}{\underset{3}{\cancel{51}}}$$

$$= \boxed{\frac{8}{9}}$$

4.31)

$$96 \cdot x = 64$$

$$x = \frac{64}{96} = \frac{\overset{16}{\cancel{32}}}{\underset{24}{\cancel{48}}} = \frac{16}{24} = \frac{4}{6} = \boxed{\frac{2}{3}}$$

4.32)

$$(a) \frac{2 \cdot 5^2}{3 \cdot 5^3} = \boxed{\frac{2}{15}}$$

$$(b) \frac{2 \cdot 7^2}{3 \cdot 7^3} = \boxed{\frac{2}{21}}$$

$$(c) \frac{2x^2}{3x^3} = \frac{x^2}{x^3} \cdot \frac{2}{3} = \frac{1}{x} \cdot \frac{2}{3} = \boxed{\frac{2}{3x}}$$

4.33)

$$\frac{\overset{5}{\cancel{16}} \cancel{40} \cancel{2} \cancel{2}^1}{\underset{\neq}{\cancel{16}} \cancel{c^2} \cancel{2}} = \boxed{\frac{5d}{2c^2}}$$

Ejercicios

4.5.1)

$$(a) \frac{36}{27} = \boxed{\frac{4}{3}}$$

$$(b) \frac{\overset{64}{\cancel{128}} \cancel{286}}{\underset{76}{\cancel{304}}} = \frac{\overset{16}{\cancel{64}} \cancel{76}}{\underset{19}{\cancel{38}}} = \boxed{\frac{16}{19}}$$

$$(c) \frac{\overset{24}{\cancel{480}}}{\underset{60}{\cancel{1200}}} = \frac{24}{60} = \frac{\cancel{6}}{15} = \boxed{\frac{2}{5}}$$

$$(d) \frac{1260}{1008} = \frac{315}{252} = \frac{105}{84} = \boxed{\frac{5}{4}}$$

4.5.2)

$$(a) \frac{24}{80} \cdot \frac{28}{49} = \frac{\cancel{8} \cdot 3 \cdot \cancel{7} \cdot \cancel{2} \cdot 2}{\cancel{8} \cdot \cancel{5} \cdot \cancel{2} \cdot 7^2} = \frac{3 \cdot 2}{5 \cdot 7} = \boxed{\frac{6}{35}}$$

$$(b) \frac{88}{34} \div \frac{44}{51} = \frac{\overset{1}{\cancel{2}} \cancel{88}}{\cancel{34}} \cdot \frac{\overset{3}{\cancel{51}}}{\cancel{44}} = \boxed{3}$$

$$(c) \left(-\frac{\overset{28}{\cancel{84}}}{\frac{\cancel{126}}{5}} \right) \cdot \frac{4}{\frac{\cancel{108}}{\cancel{63}} \cdot 21} = - \left(\frac{\overset{4}{\cancel{28}} \cdot 4}{5 \cdot \cancel{3} \cdot 3} \right) = \boxed{\frac{-16}{15}}$$

$$(d) \frac{400}{34} \div \frac{1300}{4} = \frac{\cancel{400}}{\cancel{34}} \cdot \frac{\overset{3}{\cancel{4}}}{\cancel{1300}} = \boxed{\frac{12}{169}}$$

4.5.3)

$$(a) \frac{4a^3b}{2ab} = \boxed{2a^2}$$

$$(b) \frac{\overset{2}{\cancel{6}} m^7 p^{12}}{\cancel{12} m^5 p^{15}} = \boxed{\frac{2m^2}{3p^3}}$$

4.5.4)

$$\frac{3}{\cancel{7}} \cdot \frac{\cancel{4}}{\cancel{15}} \cdot \frac{\cancel{5}}{\cancel{6}} \cdot \frac{\cancel{6}}{\cancel{7}} \cdot \frac{\cancel{7}}{\cancel{8}} \cdot \frac{\cancel{8}}{\cancel{9}} \cdot \frac{\cancel{9}}{\cancel{10}} \cdot \frac{\cancel{10}}{\cancel{11}} \cdot \frac{\cancel{11}}{\cancel{12}}$$

$$\frac{3}{12} = \boxed{\frac{1}{4}}$$

4.5.5)

$$\frac{\overset{6}{\cancel{4}} \overset{1}{\cancel{2}} \times \overset{1}{\cancel{3}} \overset{1}{\cancel{y}}}{\underset{5}{\cancel{35}} \overset{6}{\cancel{y}} \underset{5}{\cancel{y}}} = \frac{\overset{6}{\cancel{6}} \left(\frac{\overset{1}{\cancel{5}}}{\cancel{4}} \right)}{\underset{5}{\cancel{5}}} = \frac{\overset{3}{\cancel{6}} \cdot \cancel{5}}{\cancel{5} \cdot \underset{2}{\cancel{4}}} = \boxed{\frac{3}{2}}$$