

143 Puissances

$$1. A = \frac{2 \times 7 \times 5 \times 7 \times 10^{5-3}}{3 \times 7 \times 10^3} = \frac{70}{3 \times 10} = \frac{7}{3}$$

$$2. B = \frac{5 \times 7 \times 3 \times 10^{-3+5}}{7 \times 3 \times 10^{-1}} = 5 \times 10^{2-(-1)} = 5 \times 10^3.$$

3.

$$C = \frac{5 \times 4 \times 3 \times 10^{6-3}}{3 \times 5 \times 4 \times 2 \times 10^{-5+2}} = \frac{1}{2} \times 10^{3-(-3)}$$

$$= 0,5 \times 10^6 = 5 \times 10^5$$

4.

$$D = \frac{3 \times 1,2 \times 10^{-12+2}}{0,2 \times 10^{-7}}$$

$$= 18 \times 10^{-10-(-7)}$$

$$= 18 \times 10^{-3}$$

$$= 0,018 = 1,8 \times 10^{-2}$$

144 Racines

$$A = 6 + 2\sqrt{5}$$

$$B = -10\sqrt{7} + 140$$

$$C = 18 + 42\sqrt{2} - 6\sqrt{2} - 28 = -10 + 36\sqrt{2}$$

$$D = -36\sqrt{11} + 27 \times 11 + 48 - 36\sqrt{11} = 345 - 72\sqrt{11}$$

149 Fractions

$$1. A = \frac{8}{3} - \frac{5}{3} \times \frac{21}{20} = \frac{8}{3} - \frac{7}{4} = \frac{32-21}{12} = \frac{11}{12}$$

$$B = \frac{\frac{8}{3}}{\frac{12}{15} - \frac{10}{15}} = \frac{8}{3} \times \frac{15}{2} = 20$$

$$2. A \in \mathbb{Q} \text{ et } B \in \mathbb{N}$$