

Correction 1

- a. $10^5 \times 10^{-7} = 10^{5+(-7)} = 10^{-2}$
- b. $10^{-2} \times 10^{-2} = 10^{-2+(-2)} = 10^{-4}$
- c. $(10^3)^{-2} = 10^{3 \times (-2)} = 10^{-6}$
- d. $10^{-3} \times 10^5 = 10^{-3+5} = 10^2$
- e. $\frac{10^5}{10^7} = 10^{5-7} = 10^{-2}$
- f. $\frac{10^2}{10^{-3}} = 10^{2-(-3)} = 10^{2+3} = 10^5$

Correction 2

- a. $10^2 \times 10^{-1} \times 10^{-2} = 10^{2+(-1)+(-2)} = 10^{-1}$
- b. $\frac{10^3 \times 10^{-3}}{10^5} = \frac{10^{3+(-3)}}{10^5} = \frac{10^0}{10^5} = 10^{0-5} = 10^{-5}$
- c. $\frac{10^{-7}}{10^{-7}} = 10^{-7-(-7)} = 10^{-7+7} = 10^0 = 1$
- d. $\frac{10^{-5} \times 10^4}{10^5} = \frac{10^{-5+4}}{10^5} = \frac{10^{-1}}{10^5} = 10^{-1-5} = 10^{-6}$
- e. $(10^2 \times 10^{-4})^2 \times 10^{-4} = (10^{2+(-4)})^2 \times 10^{-4}$
 $= (10^{-2})^2 \times 10^{-4} = 10^{-2 \times 2} \times 10^{-4} = 10^{-4} \times 10^{-4}$
 $= 10^{-4+(-4)} = 10^{-8}$
- f. $\frac{10^3}{(10^{-2})^4} = \frac{10^3}{10^{-2 \times 4}} = \frac{10^3}{10^{-8}} = 10^{3-(-8)} = 10^{3+8} = 10^{11}$

Correction 3

- a. $4,42 \times 10^{15} = (4,42 \times 10^{-1}) \times (10^{15} \times 10^1) = 0,442 \times 10^{16}$
 $\neq 0,442 \times 10^{14}$
- b. $32 \times 10^{-7} = 3200 \times 10^{-9} = (32 \times 10^2) \times (10^{-7} \times 10^{-2})$
 $= 3200 \times 10^{-9}$
- c. $5471 \times 10^7 = (5471 \times 10^{-3}) \times (10^7 \times 10^3) = 5,471 \times 10^{10}$
 $\neq 5,471 \times 10^4$
- d. $0,024 \times 10^{-2} = (0,024 \times 10^2) \times (10^{-2} \times 10^{-2}) = 2,4 \times 10^{-4}$
- e. $0,00747 \times 10^{12} = (0,00747 \times 10^5) \times (10^{12} \times 10^{-5}) = 747 \times 10^7$
 $\neq 747 \times 10^{17}$
- f. $0,158 \times 10^6 = (0,158 \times 10^2) \times (10^6 \times 10^{-2}) = 15,8 \times 10^4$

Correction 4

- a. $3 \times 10^4 = 3 \times 10^2 \times 10^4 \times 10^{-2} = 300 \times 10^2$
- b. $35,1 \times 10^2 = 35,1 \times 10^{-2} \times 10^2 \times 10^2 = 0,351 \times 10^4$
- c. $35 \times 10^{-24} = 35 \times 10^1 \times 10^{-24} \times 10^{-1} = 350 \times 10^{-25}$
- d. $750 \times 10^{-9} = 750 \times 10^{-2} \times 10^{-9} \times 10^2 = 7,5 \times 10^{-7}$
- e. $0,00542 \times 10^{16} = 0,00542 \times 10^3 \times 10^{16} \times 10^{-3} = 5,42 \times 10^{13}$
- f. $0,0032 \times 10^{-4} = 0,0032 \times 10^4 \times 10^{-4} \times 10^{-4} = 32 \times 10^{-8}$

Correction 5

1. a. 0,054 b. 6400 c. 0,0071

2. a. $3 \times 10^2 + 2 \times 10^{-1} + 5 \times 10^{-2}$
 $= 300 + 0,2 + 0,05 = 300,25$
- b. $2 \times 10^{-2} + 31 \times 10^{-3} = 20 \times 10^{-3} + 31 \times 10^{-3}$
 $= 51 \times 10^{-3} = 0,051$
- c. $35 \times 10^7 + 54 \times 10^9 = 35 \times 10^7 + 5400 \times 10^9$
 $= 5435 \times 10^7 = 5435000000$
- d. $6 \times 10^{-8} - 57 \times 10^{-9} = 60 \times 10^{-9} - 57 \times 10^{-9}$
 $= 3 \times 10^{-9} = 0,000000003$

Correction 6

- a. $524,1 \times 10^2 = 524,1 \times 100 = 52410$
- b. $941,254 \times 10^2 = 941,254 \times 100 = 94125,4$
- c. $596,4 \times 10^{-1} = 596,4 \times 0,1 = 59,64$
- d. $3,3 \times 10^{-2} = 3,3 \times 0,01 = 0,033$
- e. $7,45 \times 10^{-4} = 7,45 \times 0,0001 = 0,000745$
- f. $0,045 \times 10^5 = 0,045 \times 100000 = 4500$

Correction 7

- a. $5640 \times 10^{-3} = 5,64$
- b. $34000 \times 10^{-4} = 3,4$
- c. $78,09 \times 10^{-1} = 7,809$
- d. $0,0045 \times 10^3 = 4,5$
- e. $0,0704 \times 10^2 = 7,04$
- f. $0,0000002 \times 10^7 = 2$

Correction 8

1. $3526 = 3526 \times \frac{10^3}{10^3} = 3,526 \times 10^3$
2. $B = 0,0000000332 = 0,0000000332 \times \frac{10^8}{10^8} = 3,32 \times \frac{1}{10^8}$
 $= 3,32 \times 10^{-8}$
3. $C = 3542 \times 10^{11} = 3542 \times 10^1 \times \frac{10^3}{10^3} = 3,542 \times 10^{11+3}$
 $= 3,542 \times 10^{14}$