Worksheet 2019-9ℰB-00005(2)

(1) Simplify and write your answer as a positive exponent:

(a) $(-3xy^{-3}k^{0})^{3}$

(b) $\dfrac{a^{3\frac{1}{2}} \times a \times a^{\frac{1}{2}}}{b^{3} \times b^{-6}}$

(c) $3^{x+2y} \cdot 9^{-y}$

(d) $\sqrt{9m^{6} + 16m^{6}}$

(2) Simplify and write your answer as a positive exponent:

(a) $\dfrac{5^{0} \times m^{12} \times n^{4} \times n^{-2}}{m^{5} \times m \times n^{6}}$

(b) $\dfrac{\left(5^{3}\right)^{2} \times (5 \times 7)^{3}}{(7^{2} \times 5^{-4})^{-1}}$

(3) (a) Write in scientific notation: (b) Write as a number:

Without a calculator.

(i) 4 320 _____ (i) $1{,}1 \times 10^{6}$ _____

(ii) 0,03166 _____ (ii) $5{,}08 \times 10^{-1}$ _____

(4) Simplify without using a calculator and write the answer in scientific notation:

(i) $(3{,}5 \times 10^{-5}) \div (7{,}0 \times 10^{2})$

(ii) $(4{,}6 \times 10^{3}) + (3{,}2 \times 10^{2})$

(5) Solve for x:

(a) $2^x = 8$

(b) $5^x = 1$

(c) $8^x = \frac{1}{16}$

(d) $x^4 = 81$