

Worksheet 2015-8EA-00014(2)

NO CALCULATOR MAY BE USED IN THIS EXERCISE!

(1) Calculate, without using a calculator. Show all calculations.

(a) $3^3 + 7^2$

$$= 27 + 49$$

$$= 76$$

(b) $\sqrt{\sqrt{81}}$

$$= \sqrt{9}$$

$$= 3$$

(c) $6 + 3 \times 2^2$

$$= 6 + 3 \times 4$$

$$= 6 + 12$$

$$= 18$$

(d) $2(9 - 12) - (-2)^2$

$$= 2(-3) - (4)$$

$$= -6 - 4$$

$$= -10$$

(e) $\sqrt[3]{3375}$

$$= \sqrt[3]{5^3 \times 3^3}$$

$$= 5 \times 3$$

$$= 15$$

$$\begin{array}{r|l} 5 & 3375 \\ 5 & 675 \\ 5 & 135 \\ 3 & 27 \\ 3 & 9 \\ 3 & 3 \\ & 1 \end{array}$$

(2) (a) Determine the prime factors of 40 and 35.

$$\begin{array}{r|l} 2 & 40 \\ 2 & 20 \\ 2 & 10 \\ 5 & 5 \\ & 1 \end{array}$$

$$\begin{array}{r|l} 5 & 35 \\ 7 & 7 \\ & 1 \end{array}$$

$$\therefore 40 = 2 \times 2 \times 2 \times 5 = 2^3 \times 5 \quad \text{en} \quad 35 = 3 \times 5$$

(b) Hence, determine the HCF of 40 and 35.

$$40 = 2 \times 2 \times 2 \times \underline{5} \quad \text{and} \quad 35 = 3 \times \underline{5}$$

$$\therefore \text{HCF} = 5$$

(3) Which of the following numbers are Rational numbers?

$$\frac{-6}{11} ; \sqrt{10} ; 0,234 ; 0 ; \sqrt[3]{8} ; 4,\dot{3}$$

$= 2$

$\therefore$ Rational numbers : $-\frac{6}{11} ; 0,234 ; 0 ; \sqrt[3]{8} ; 4,\dot{3}$

(4) Tabulate the whole numbers smaller and equal to 12.

$\{0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12\}$

(5) Write all the uneven prime numbers which is also factors of 30.

$F_{30} = \{1; \underline{2}; \underline{3}; \underline{5}; 6; 10; 15; 30\}$

$\therefore$ Uneven prime numbers = 3 and 5