

14. Decimal Division

a) Definition of Decimals

Definition of Decimals

Tenths place: $0.x = x \times \frac{1}{10}$ (x tenths)

Hundredths place: $0.0x = x \times \frac{1}{100}$ (x hundredths)

$$0.5 = 5 \times \frac{1}{10}$$

$$0.05 = 5 \times \frac{1}{100}$$

$$0.57 = 0.5 + 0.07$$

$$= 5 \times \frac{1}{10} + 7 \times \frac{1}{100}$$

$$= 5 \times \frac{10}{100} + 7 \times \frac{1}{100} \quad (\text{Theorem 1})$$

$$= 50 \times \frac{1}{100} + 7 \times \frac{1}{100}$$

$$= (50 + 7) \times \frac{1}{100}$$

$$= 57 \times \frac{1}{100}$$

$$2.57 = 2 + 0.57$$

$$= 2 \times 1 + 57 \times \frac{1}{100}$$

$$= 2 \times \frac{100}{100} + 57 \times \frac{1}{100}$$

$$= 200 \times \frac{1}{100} + 57 \times \frac{1}{100}$$

$$= (200 + 57) \times \frac{1}{100}$$

$$= 257 \times \frac{1}{100}$$

14. Decimal Division

$$\begin{aligned}4.8 \div 2 &= 48 \times \frac{1}{10} \div 2 \\&= 48 \div 2 \times \frac{1}{10} \\&= 24 \times \frac{1}{10} \\&= 2.4\end{aligned}$$

$$\begin{aligned}0.56 \div 7 &= 56 \times \frac{1}{100} \div 7 \\&= 56 \div 7 \times \frac{1}{100} \\&= 8 \times \frac{1}{100} \\&= 0.08\end{aligned}$$

$$\begin{aligned}3.6 \div 0.4 &= 36 \times \frac{1}{10} \div (4 \times \frac{1}{10}) \\&= 36 \div 4 \times \frac{1}{10} \div \frac{1}{10} \\&= 36 \div 4 \\&= 9\end{aligned}$$

$$\begin{aligned}1.44 \div 1.2 &= 144 \times \frac{1}{100} \div (120 \times \frac{1}{100}) \\&= 144 \div 120 \times \frac{1}{100} \div \frac{1}{100} \\&= 144 \div 120 \\&= 1.2\end{aligned}$$

14. Decimal Division

b)

$$6.3 \div 3 = \text{[]}$$

c)

$$7.5 \div 0.5 = \text{[]}$$

d)

$$0.72 \div 8 = \text{[]}$$

14. Decimal Division

e)

$$4.2 \div 0.6 = \boxed{}$$

f)

$$2.25 \div 0.5 = \boxed{}$$