

Decimals

Exercise 3D

Q1

Answer :

We have the following:

(i) $131.6 \div 10 = \frac{131.6}{10} = 13.16$ [Shift the decimal point to the left by 1 place]

(ii) $32.56 \div 10 = \frac{32.56}{10} = 3.256$ [Shift the decimal point to the left by 1 place]

(iii) $4.38 \div 10 = \frac{4.38}{10} = 0.438$ [Shift the decimal point to the left by 1 place]

(iv) $0.34 \div 10 = \frac{0.34}{10} = 0.034$ [Shift the decimal point to the left by 1 place]

(v) $0.08 \div 10 = \frac{0.08}{10} = 0.008$ [Shift the decimal point to the left by 1 place]

(vi) $0.062 \div 10 = \frac{0.062}{10} = 0.0062$ [Shift the decimal point to the left by 1 place]

Q2

Answer :

We have the following:

(i) $137.2 \div 100 = \frac{137.2}{100} = 1.372$ [Shifting the decimal point to the left by 2 places]

(ii) $23.4 \div 100 = \frac{23.4}{100} = 0.234$ [Shifting the decimal point to the left by 2 places]

(iii) $4.7 \div 100 = \frac{4.7}{100} = 0.047$ [Shifting the decimal point to the left by 2 places]

(iv) $0.3 \div 100 = \frac{0.3}{100} = 0.003$ [Shifting the decimal point to the left by 2 places]

(v) $0.58 \div 100 = \frac{0.58}{100} = 0.0058$ [Shifting the decimal point to the left by 2 places]

(vi) $0.02 \div 100 = \frac{0.02}{100} = 0.0002$ [Shifting the decimal point to the left by 2 places]

Q3

TOPKIDLAB
Same textbooks, better way

Answer :

We have the following:

$$(i) 1286.5 \div 1000 = \frac{1286.5}{1000} = 1.2865 \quad [\text{Shift the decimal point to the left by 3 places}]$$

$$(ii) 354.16 \div 1000 = \frac{354.16}{1000} = 0.35416 \quad [\text{Shift the decimal point to the left by 3 places}]$$

$$(iii) 38.9 \div 1000 = \frac{38.9}{1000} = 0.0389 \quad [\text{Shift the decimal point to the left by 3 places}]$$

$$(iv) 4.6 \div 1000 = \frac{4.6}{1000} = 0.0046 \quad [\text{Shift the decimal point to the left by 3 places}]$$

$$(v) 0.8 \div 1000 = \frac{0.8}{1000} = 0.0008 \quad [\text{Shift the decimal point to the left by 3 places}]$$

$$(vi) 2 \div 1000 = \frac{2}{1000} = 0.002 \quad [\text{Shift the decimal point to the left by 3 places}]$$

Q4

Answer :

$$(i) 12 \div 8 = \frac{12}{8} = \frac{3}{2}$$

$$\begin{array}{r} 2 \overline{) 3} (1.5 \\ \underline{-2} \\ 10 \\ \underline{-10} \\ \times \end{array}$$

$$\therefore 12 \div 8 = 1.5$$

$$(ii) 63 \div 15 = \frac{63}{15} = \frac{21}{5}$$

$$\begin{array}{r} 5 \overline{) 21} (4.2 \\ \underline{-20} \\ 10 \\ \underline{-10} \\ \times \end{array}$$

$$\therefore 63 \div 15 = 4.2$$

$$(iii) 47 \div 20 = \frac{47}{20}$$

$$\begin{array}{r} 20 \overline{) 47} (2.35 \\ \underline{-40} \\ 70 \\ \underline{-60} \\ 100 \\ \underline{-100} \\ \times \end{array}$$

$$\therefore 47 \div 20 = 2.35$$

$$(iv) 101 \div 25 = \frac{101}{25}$$

$$\begin{array}{r} 25 \overline{) 101} (4.04 \\ \underline{-100} \\ 100 \\ \underline{-100} \\ \times \end{array}$$

$$\therefore 101 \div 25 = 4.04$$

$$(v) 31 \div 40$$

$$\begin{array}{r} 0.775 \\ 40 \overline{) 3100} \leftarrow \text{two zero annexed} \\ \underline{-0} \\ 31 \\ \underline{-28} \\ 30 \\ \underline{-28} \\ 20 \\ \underline{-20} \\ \times \end{array}$$

$$\therefore 31 \div 40 = 0.775$$

$$(vi) 11 \div 16 = \frac{11}{16}$$

$$\begin{array}{r} 0.6875 \\ 16 \overline{) 110000} \leftarrow \text{four zero annexed} \\ \underline{-00} \\ 110 \\ \underline{-96} \\ 140 \\ \underline{-128} \\ 120 \\ \underline{-112} \\ 80 \\ \underline{-80} \\ \times \end{array}$$

$$\therefore 11 \div 16 = 0.6875$$

Q5

Answer :

(i) We have:

$$\begin{array}{r} 43.2 \div 6 \\ 6 \overline{) 43.2} (7.2 \\ \underline{-42} \\ 12 \\ \underline{-12} \\ \times \end{array}$$

$$\therefore 43.2 \div 6 = 7.2$$

(ii) We have:

$$\begin{array}{r} 60.48 \div 12 \\ 12 \overline{) 60.48} (5.04 \\ \underline{-60} \\ 04 \\ \underline{-0} \\ 48 \\ \underline{-48} \\ \times \end{array}$$

$$\therefore 60.48 \div 12 = 5.04$$

(iii) We have:

$$\begin{array}{r} 117.6 \div 21 \\ 21 \overline{) 1176} (5.6 \\ \underline{-105} \\ 126 \\ \underline{-126} \\ \times \end{array}$$

$$\therefore 117.6 \div 21 = 5.6$$

(iv) We have:

$$\begin{array}{r} 217.44 \div 18 \\ 18 \overline{) 217.44} (12.08 \\ \underline{-18} \\ 37 \\ \underline{-36} \\ 144 \\ \underline{-144} \\ \times \end{array}$$

$$\therefore 217.44 \div 18 = 12.08$$

Copykitab
Same textbooks, knock away

(v) We have:

$$\begin{array}{r} 2.575 \div 25 \\ 25 \overline{)2.575} (0.103 \\ \underline{-0} \\ 25 \\ \underline{-25} \\ \times 7 \\ \underline{-0} \\ 75 \\ \underline{-75} \\ \times \end{array}$$

$$\therefore 2.575 \div 25 = 0.103$$

(vi) We have:

$$\begin{array}{r} 6.08 \div 8 \\ 8 \overline{)6.08} (0.76 \\ \underline{-0} \\ 60 \\ \underline{-56} \\ 48 \\ \underline{-48} \\ \times \end{array}$$

$$\therefore 6.08 \div 8 = 0.76$$

(vii) We have:

$$\begin{array}{r} 0.765 \div 9 \\ 9 \overline{)0.765} (0.085 \\ \underline{-0} \\ 076 \\ \underline{-72} \\ 45 \\ \underline{-45} \\ \times \end{array}$$

$$\therefore 0.765 \div 9 = 0.085$$

(viii) We have:

$$\begin{array}{r} 0.768 \div 16 \\ 16 \overline{)0.768} (0.048 \\ \underline{-0} \\ \times 76 \\ \underline{-64} \\ 128 \\ \underline{-128} \\ \times \end{array}$$

$$\therefore 0.768 \div 16 = 0.048$$

(ix) We have:

$$\begin{aligned} & 0.175 \div 25 \\ &= \frac{0.175}{25} \\ &= \frac{0.175 \times 1000}{25 \times 1000} \\ &= \frac{175}{25 \times 1000} \\ &= \frac{7}{1000} \\ &= 0.007 \end{aligned}$$

(x) We have:

$$\begin{array}{r} 0.3322 \div 11 \\ 11 \overline{)0.3322} (0.0302 \\ \underline{-0} \\ \times 3 \\ \underline{-0} \\ 33 \\ \underline{-33} \\ \times 2 \\ \underline{-0} \\ 22 \\ \underline{-22} \\ \times \end{array}$$

$$\therefore 0.3322 \div 11 = 0.0302$$

Copykitab
Same textbooks, knock away

(xi) We have:

$$2.13 \div 15$$

$$\begin{array}{r} 0.142 \\ 15 \overline{) 2.130} \leftarrow \text{one zero annexed} \\ \underline{-0} \\ 21 \\ \underline{-15} \\ 63 \\ \underline{-60} \\ 30 \\ \underline{-30} \\ \times \end{array}$$

$$\therefore 2.13 \div 15 = 0.142$$

(xii) We have:

$$6.54 \div 12$$

$$\begin{array}{r} 0.545 \\ 12 \overline{) 6.540} \leftarrow \text{one zero annexed} \\ \underline{-0} \\ 65 \\ \underline{-60} \\ 54 \\ \underline{-48} \\ 60 \\ \underline{-60} \\ \times \end{array}$$

$$\therefore 6.54 \div 12 = 0.545$$

(xiii) We have:

$$5.52 \div 16$$

$$\begin{array}{r} 0.345 \\ 16 \overline{) 5.520} \leftarrow \text{one zero annexed} \\ \underline{-0} \\ 55 \\ \underline{-48} \\ 72 \\ \underline{-64} \\ 80 \\ \underline{-80} \\ \times \end{array}$$

$$\therefore 5.52 \div 16 = 0.345$$

(xiv) We have:

$$1.001 \div 14$$

$$\begin{array}{r} 0.0715 \\ 14 \overline{) 1.0010} \leftarrow \text{one zero annexed} \\ \underline{-0} \\ 100 \\ \underline{-98} \\ 21 \\ \underline{-14} \\ 70 \\ \underline{-70} \\ \times \end{array}$$

$$\therefore 1.001 \div 14 = 0.0715$$

(xv) We have:

$$0.477 \div 18$$

$$\begin{array}{r} 0.0265 \\ 18 \overline{) 0.4770} \leftarrow \text{one zero annexed} \\ \underline{-0} \\ \times 4 \\ \underline{-0} \\ 47 \\ \underline{-36} \\ 117 \\ \underline{-108} \\ 90 \\ \underline{-90} \\ \times \end{array}$$

$$\therefore 0.477 \div 18 = 0.0265$$

Answer :

$$(i) 16.46 \div 20 = \frac{16.46}{20} = \frac{16.46 \times 100}{20 \times 100} = \frac{1646}{2 \times 1000} = \frac{823}{1000} = 0.823$$

$$(ii) 403.8 \div 30 = \frac{403.8}{30} = \frac{403.8 \times 10}{30 \times 10} = \frac{4038}{3 \times 100} = \frac{1346}{100} = 13.46$$

$$(iii) 19.2 \div 80 = \frac{19.2}{80} = \frac{19.2 \times 10}{80 \times 10} = \frac{192}{800} = \frac{192}{8 \times 100} = \frac{24}{100} = 0.24$$

$$(iv) 156.8 \div 200 = \frac{156.8}{200} = \frac{156.8 \times 10}{200 \times 10} = \frac{1568}{2000} = \frac{784}{1000} = 0.784$$

$$(v) 12.8 \div 500 = \frac{12.8}{500} = \frac{12.8 \times 10}{500 \times 10} = \frac{128}{5000} = \frac{25.6}{1000} = 0.0256$$

$$(vi) 18.08 \div 400 = \frac{18.08}{400} = \frac{18.08 \times 100}{400 \times 100} = \frac{1808}{40000} = \frac{452}{10000} = 0.0452$$

Q7

Answer :

$$(i) 3.28 \div 0.8 = \frac{3.28}{0.8} = \frac{3.28 \times 10}{0.8 \times 10} = \frac{32.8}{8}$$

Now, we have:

$$\begin{array}{r} 8 \overline{)32.8} (4.1 \\ \underline{-32} \\ \times 8 \\ \underline{-8} \\ \times \\ \hline \therefore \frac{3.28}{0.8} = \frac{32.8}{8} = 4.1 \end{array}$$

$$(ii) 0.288 \div 0.9 = \frac{0.288}{0.9} = \frac{0.288 \times 10}{0.9 \times 10} = \frac{2.88}{9}$$

Now, we have:

$$\begin{array}{r} 9 \overline{)2.88} (0.32 \\ \underline{-0} \\ 28 \\ \underline{-27} \\ 18 \\ \underline{-18} \\ \times \\ \hline \therefore \frac{0.288}{0.9} = \frac{2.88}{9} = 0.32 \end{array}$$

$$(iii) 25.395 \div 1.5 = \frac{25.395}{1.5} = \frac{25.395 \times 10}{1.5 \times 10} = \frac{253.95}{15}$$

Now, we have:

$$\begin{array}{r} 15 \overline{)253.95} (16.93 \\ \underline{-15} \\ 103 \\ \underline{-90} \\ 139 \\ \underline{-135} \\ 45 \\ \underline{-45} \\ \times \\ \hline \therefore \frac{25.395}{1.5} = \frac{253.95}{15} = 16.93 \end{array}$$

Copykitab
Same textbooks, knock away

$$(iv) 2.0484 \div 0.18 = \frac{2.0484}{0.18} = \frac{2.0484 \times 100}{0.18 \times 100} = \frac{204.84}{18}$$

Now, we have:

$$\begin{array}{r} 18 \overline{)204.84} (11.38 \\ \underline{-18} \\ 24 \\ \underline{-18} \\ 68 \\ \underline{-54} \\ 144 \\ \underline{-144} \\ \times \end{array}$$

$$\therefore \frac{2.0484}{0.18} = \frac{204.84}{18} = 11.38$$

$$(v) 0.228 \div 0.38 = \frac{0.228}{0.38} = \frac{0.228 \times 100}{0.38 \times 100} = \frac{22.8}{38}$$

Now, we have:

$$\begin{array}{r} 38 \overline{)22.8} (0.6 \\ \underline{-0} \\ 228 \\ \underline{-228} \\ \times \end{array}$$

$$\therefore \frac{0.228}{0.38} = \frac{22.8}{38} = 0.6$$

$$(vi) 0.8085 \div 0.35 = \frac{0.8085}{0.35} = \frac{0.8085 \times 100}{0.35 \times 100} = \frac{80.85}{35}$$

Now, we have:

$$\begin{array}{r} 35 \overline{)80.85} (2.31 \\ \underline{-70} \\ 108 \\ \underline{-105} \\ 35 \\ \underline{-35} \\ \times \end{array}$$

$$\therefore \frac{0.8085}{0.35} = \frac{80.85}{35} = 2.31$$

$$(vii) 21.976 \div 1.64 = \frac{21.976}{1.64} = \frac{21.976 \times 100}{1.64 \times 100} = \frac{2197.6}{164}$$

Now, we have:

$$\begin{array}{r} 164 \overline{)2197.6} (13.4 \\ \underline{-164} \\ 557 \\ \underline{-492} \\ 656 \\ \underline{-656} \\ \times \end{array}$$

$$\therefore \frac{21.976}{1.64} = \frac{2197.6}{164} = 13.4$$

$$(viii) 11.04 \div 1.6 = \frac{11.04}{1.6} = \frac{11.04 \times 10}{1.6 \times 10} = \frac{110.4}{16}$$

Now, we have:

$$\begin{array}{r} 16 \overline{)110.4} (6.9 \\ \underline{-96} \\ 144 \\ \underline{-144} \\ \times \end{array}$$

$$\therefore \frac{11.04}{1.6} = \frac{110.4}{16} = 6.9$$

$$(ix) 6.612 \div 11.6 = \frac{6.612}{11.6} = \frac{6.612 \times 10}{11.6 \times 10} = \frac{66.12}{116}$$

Now, we have:

$$\begin{array}{r} 116 \overline{)66.12} (0.57 \\ \underline{-0} \\ 661 \\ \underline{-580} \\ 812 \\ \underline{-812} \\ \times \end{array}$$

$$\therefore \frac{6.612}{11.6} = \frac{66.12}{116} = 0.57$$

$$(x) 0.076 \div 0.19 = \frac{0.076}{0.19} = \frac{0.076 \times 100}{0.19 \times 100} = \frac{7.6}{19}$$

Now, we have:

$$\begin{array}{r} 19 \overline{)7.6} \quad (0.4) \\ \underline{-0} \\ 76 \\ \underline{-76} \\ \times \end{array}$$

$$\therefore \frac{0.076}{0.19} = \frac{7.6}{19} = 0.4$$

$$(xi) 48 \div 0.074$$

$$\begin{aligned} &= \frac{48}{0.074} \\ &= \frac{48 \times 1000}{0.074 \times 1000} \\ &= \frac{48000}{74} \\ &= 2 \times 1000 \\ &= 2000 \end{aligned}$$

$$(xii) 16.578 \div 5.4 = \frac{16.578}{5.4} = \frac{16.578 \times 10}{5.4 \times 10} = \frac{165.78}{54}$$

Now, we have:

$$\begin{array}{r} 54 \overline{)165.78} \quad (3.07) \\ \underline{-162} \\ 37 \\ \underline{-0} \\ 378 \\ \underline{-378} \\ \times \end{array}$$

$$\therefore \frac{16.578}{5.4} = \frac{165.78}{54} = 3.07$$

$$(xiii) 28 \div 0.56$$

$$\begin{aligned} &= \frac{28}{0.56} \\ &= \frac{28 \times 100}{0.56 \times 100} \\ &= \frac{2800}{56} \\ &= \frac{1 \times 100}{2} \\ &= 50 \end{aligned}$$

$$(xv) 3 \div 80 = \frac{3}{80}$$

Now, we have:

$$\begin{array}{r} 0.0375 \\ 80 \overline{)30000} \quad \leftarrow \text{four zero annexed} \\ \underline{-0} \\ 30 \\ \underline{-0} \\ 300 \\ \underline{-240} \\ 600 \\ \underline{-560} \\ 400 \\ \underline{-400} \\ \times \end{array}$$

$$\therefore \frac{3}{80} = 0.0375$$

Q9

Answer :

Cloth required for 1 shirt = 1.8 m

$$\therefore \text{Number of shirts that can be made from 45 m of cloth} = \frac{45}{1.8} = \frac{15}{0.6} = \frac{5}{0.2} = \frac{50}{2} = 25$$

Hence, 25 shirts can be made from a piece of cloth of length 45 m.

Q10

Answer :

Distance covered by the car with 2.4 litres of petrol = 22.8 km

$$\begin{aligned}\therefore \text{Distance covered with 1 litre of petrol} &= \left(\frac{22.8}{2.4}\right) \text{ km} \\ &= \left(\frac{228}{24}\right) \text{ km} = \left(\frac{228 \div 12}{24 \div 12}\right) \text{ km} = \left(\frac{19}{2}\right) \text{ km} = 9\frac{1}{2} \text{ km}\end{aligned}$$

Hence, the distance covered by the car with 1 litre of petrol is $9\frac{1}{2}$ km.

Q11

Answer :

Capacity of 1 tin of oil = 16.5 litres

$$\therefore \text{Number of tins required to hold 478.5 litres of oil} = \left(\frac{478.5}{16.5}\right) = \left(\frac{4785}{165}\right) = \left(\frac{4785 \div 15}{165 \div 15}\right) = \frac{319}{11} = 29$$

Hence, 29 oil tins will be required to hold 478.5 litres of oil.

Q12

Answer :

Weight of 37 bags of sugar = 3644.5 kg

$$\therefore \text{Weight of 1 bag of sugar} = \left(\frac{3644.5}{37}\right) = 98.5 \text{ kg}$$

$$\begin{array}{r} 37 \overline{)3644.5} \quad (98.5 \\ \underline{-333} \\ 314 \\ \underline{-296} \\ 185 \\ \underline{-185} \\ \times \end{array}$$

Hence, each bag of sugar weighs 98.5 kg.

Q13

Answer :

Capacity of 69 buckets of water = 586.5 litres

$$\therefore \text{Capacity of one such bucket} = \left(\frac{586.5}{69}\right) \text{ litres} = 8.5 \text{ litres}$$

$$\begin{array}{r} 69 \overline{)586.5} \quad (8.5 \\ \underline{-552} \\ 345 \\ \underline{-345} \\ \times \end{array}$$

Hence, the capacity of each water bucket is 8.5 litres.

Q14

Answer :

Length of one piece of cloth = 1.15 m

$$\begin{aligned}\therefore \text{Number of pieces she gets from 46 m of cloth} &= \left(\frac{46}{1.15}\right) \\ &= \left(\frac{46 \times 100}{1.15 \times 100}\right) = \left(\frac{4600}{115}\right) = 40\end{aligned}$$

Hence, Monica has 40 pieces of cloth each of length 1.15 m.

Q15

Answer :

Total weight of all the bags of cement = 1792.8 kg

Weight of each bag = 49.8 kg

$$\begin{aligned}\text{Number of bags} &= \left(\frac{\text{Total weight}}{\text{Weight of each bag}}\right) \\ &= \left(\frac{1792.8}{49.8}\right) = \left(\frac{17928}{498}\right) = 36\end{aligned}$$

$$\begin{array}{r} 498 \overline{)17928} \quad (36 \\ \underline{-1494} \\ 2988 \\ \underline{-2988} \\ \times \end{array}$$

Hence, Mr. Soni bought 36 bags of cement.

Q16

Answer :

Thickness of the pile of plywood pieces = 1.89 m = 189 cm

Thickness of one piece of plywood = 0.35 cm

$$\therefore \text{Required number of plywood pieces} = \left(\frac{189}{0.35}\right) = \left(\frac{189 \times 100}{0.35 \times 100}\right) = \left(\frac{18900}{35}\right) = 540$$

$$\begin{array}{r} 35 \overline{)18900} \quad (540 \\ \underline{-175} \\ 140 \\ \underline{-140} \\ 0000 \\ \underline{-0000} \\ \times \end{array}$$

Hence, 540 pieces of plywood are required to make a pile of height 1.89 m.

Q17

Answer :

Product of the given decimals = 261.36

One decimal = 17.6

The other decimal = $261.36 \div 17.6$

$$= \left(\frac{261.36}{17.6}\right) = \left(\frac{261.36 \times 10}{17.6 \times 10}\right) = \left(\frac{2613.6}{176}\right) \\ = 14.85$$

$$\begin{array}{r} 176 \overline{)2613.6} \quad (14.85 \\ \underline{-176} \\ 853 \\ \underline{-704} \\ 1496 \\ \underline{-1408} \\ 880 \\ \underline{-880} \\ \times \end{array}$$

Hence, the other decimal is 14.85.

Kopykitab
Same textbooks, knock away