Short multiplication method

I am learning to multiply a two- or three-digit number by 0–10 using the short multiplication method.

We can also use the short multiplication method. Instead of using separate steps, we can do it all together.

A length of track is 281 m. If Max runs this track six times, how many metres will he have run?

281 m × 6

(a) Estimate.

Think:

281 rounds to 300.

300 × 6 = 1,800

(b) Calculate.

Multiply each digit by 6, carrying over any regrouped amounts.

Answer: 281 m × 6 = 1,686 m

$$\begin{array}{r} 281 \\ \times\ 6 \\ \hline 1686 \end{array}$$

Go 53

1 Work these out. Three are done for you.

(a)
$$\begin{array}{rr} & \text{TU} \\ & 34 \\ \times & 6 \\ \hline & 204 \end{array}$$

(b)
$$\begin{array}{rr} & \text{TU} \\ & 25 \\ \times & 5 \\ \hline & 125 \end{array}$$

(c)
$$\begin{array}{rr} & \text{TU} \\ & 36 \\ \times & 4 \\ \hline & 144 \end{array}$$

(d)
$$\begin{array}{rr} & \text{TU} \\ & 45 \\ \times & 3 \\ \hline & 135 \end{array}$$

(e)
$$\begin{array}{rr} & \text{HTU} \\ & 245 \\ \times & 3 \\ \hline & 735 \end{array}$$

(f)
$$\begin{array}{rr} & \text{HTU} \\ & 132 \\ \times & 8 \\ \hline & 1056 \end{array}$$

(g)
$$\begin{array}{rr} & \text{HTU} \\ & 148 \\ \times & 3 \\ \hline & 444 \end{array}$$

(h)
$$\begin{array}{rr} & \text{HTU} \\ & 207 \\ \times & 4 \\ \hline & 828 \end{array}$$

(i)
$$\begin{array}{rr} & \text{HTU} \\ & 425 \\ \times & 6 \\ \hline & 2550 \end{array}$$

(j)
$$\begin{array}{rr} & \text{HTU} \\ & 649 \\ \times & 1 \\ \hline & 649 \end{array}$$

(k)
$$\begin{array}{rr} & \text{HTU} \\ & 286 \\ \times & 7 \\ \hline & 2002 \end{array}$$

(l)
$$\begin{array}{rr} & \text{HTU} \\ & 417 \\ \times & 8 \\ \hline & 3336 \end{array}$$

Check your answers using your calculator, but without using the × button!

P.89

Q2.

(a) $3 \;|\; 5\,{}^{2}4$

18

(b) $6 \;|\; 8\,{}^{2}4$

14

(c) $5 \;|\; 12\,{}^{2}0$

24

(d) $9 \;|\; 14\,{}^{5}4$

16

(e) $4 \;|\; €7\,{}^{3}2$

€18

(f) $6 \;|\; €9\,{}^{3}6$

€16

(g) $7 \;|\; €\,{}^{1}5\,{}^{1}4$

€022

(h) $2 \;|\; €1\,{}^{1}0\,6$

€053

Q3.

(a) $4 \;|\; 7\,{}^{3}6$

19

(b) $5 \;|\; 9\,{}^{4}5$

19

(c) $6 \;|\; 1\,{}^{1}3\,{}^{1}8$

023

(d) $2 \;|\; 1\,{}^{1}3\,{}^{1}6$

068

(e) $5 \;|\; 1\,{}^{1}6\,{}^{1}0$

032

(f) $\frac{95}{5} = 5 \;|\; 9\,{}^{4}5$

19

(g) $\frac{96}{8} = 8 \;|\; 9\,{}^{1}6$

12

(h) $\frac{177}{3} = 3 \;|\; 1\,{}^{1}7\,{}^{2}7$

059

(i) $\frac{156}{4} = 4 \;|\; 1\,{}^{1}5\,{}^{3}6$

039

(j) $\frac{168}{7} = 7 \;|\; 16\,{}^{2}8$

24