

Formal methods: multiply decimals

1 Tommy is working out 2.4×3

Tens	Ones	Tenths
	1 1	0.1 0.1 0.1 0.1
	1 1	0.1 0.1 0.1 0.1
	1 1	0.1 0.1 0.1 0.1

a) Use Tommy's method to work out the answer.

b) Use a place value chart and counters to work out these calculations.

$14.2 \times 4 =$ $3.21 \times 5 =$ $5.73 \times 2 =$

2 a) Work out 38×7

b) Use your answer to work out these calculations.

$3.8 \times 7 =$ $3.8 \times 0.7 =$

$3.8 \times 70 =$ $3.8 \times 0.07 =$

$380 \times 0.07 =$ $0.38 \times 7 =$

c) Compare answers with a partner. Discuss the method that you used.

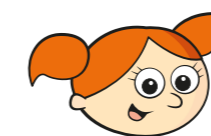
3 Amir is working out 1.7×28
First, he works out 17×28

	1	7	
x	2	8	
<hr/>			
	1	3	6
	3	4	0
<hr/>			
	4	7	6

How can Amir use this working to calculate 1.7×28 ?

Explain your reasoning.

4 Alex is working out 0.2×0.4 in her head.



I know that $2 \times 4 = 8$. I multiplied each number in the question by 10, so I'll divide 8 by 10. The answer is 0.8

a) Is Alex correct? _____

Explain your answer.

b) Work out these calculations in your head.

$0.3 \times 2 = \boxed{} \quad 0.3 \times 3 = \boxed{}$

$0.3 \times 0.2 = \boxed{} \quad 0.3 \times 0.3 = \boxed{}$

$0.3 \times 5 = \boxed{} \quad 0.3 \times 0.5 = \boxed{}$

$0.3 \times 0.6 = \boxed{} \quad 0.6 \times 0.03 = \boxed{}$

5 Estimate the answers by rounding to one significant figure.
Then work out the calculations.

a) 2.1×39

estimate

answer

c) 8.3×0.42

estimate

answer

b) 5.7×0.6

estimate

answer

d) 4.09×8.7

estimate

answer

6

$723 \times 84 = 60,732$

Use this information to fill in the missing numbers.

$72.3 \times \boxed{} = 607.32$

$\boxed{} \times 0.84 = 607.32$

$\boxed{} \times 7.23 = 607,320$

$6.0732 = \boxed{} \times 8.4$

7

Mr Johns needs four different lengths of pipe.

2.8 m 4.1 m 1.6 m 0.4 m

The pipe costs £1.34 per metre.

Work out the total cost of the pipes Mr Johns needs to buy.

Round your answer to the nearest penny.

8

The 1st term in a sequence is 3

The term-to-term rule is $\times 3.2$ then $+ 1$

Find the next two terms in the sequence.

2nd term = 3rd term =