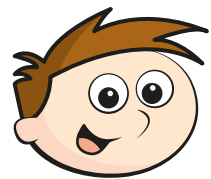# Estimate the answer to a calculation

1 Circle the most appropriate calculation to use to estimate the answer to each multiplication.

a) | 41 × 34 | 30 × 30 | 40 × 30 | 40 × 40 | 50 × 30

b) | 68 × 74 | 70 × 70 | 60 × 70 | 70 × 80 | 50 × 70

c) | 8.7 × 52 | 8 × 50 | 9 × 50 | 10 × 50 | 10 × 60

d) | 31 × 275 | 30 × 270 | 30 × 275 | 30 × 280 | 30 × 300

2 Teddy is working out 37 × 68

> I'm going to round both numbers to 1 significant figure to get an estimate first.

a) Complete Teddy's workings.

37 to 1 significant figure = ☐

68 to 1 significant figure = ☐

So 37 × 68 ≈ ☐ × ☐ = ☐

b) Will this estimate be smaller than or greater than the actual answer to 37 × 68? _____

Explain how you know.

_____

_____

c) Use your calculator to work out 37 × 68 to check your answer.

Discuss the answer with a partner and how it compares to your estimate.

3 33 children are going to Kim's birthday party.

Her mum buys some treats for all the children.
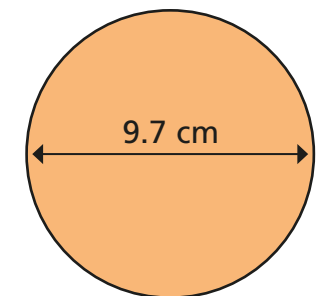
Estimate the cost of buying each item.

a) CHOCOLATE **49p**

b) POP! **82p**

approximate cost = £ ☐   approximate cost = £ ☐

4 Esther is using a calculator to work out the area of the circle.
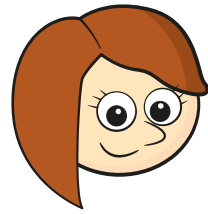
She gets this answer.

12.491487

9.7 cm

a) Explain how you know Esther's answer must be wrong.

_____

_____

b) Use π = 3 to estimate the circumference of the circle.   ☐

5 Estimate the area of the rectangle.

238 mm

37 mm

☐
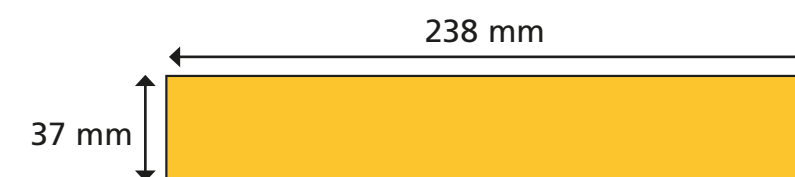
6 Rosie is working out 5,624 ÷ 1.9

I'm going to round both numbers to one significant figure to get an estimate first.

Complete Rosie's workings.

5,624 to 1 significant figure = ⬚

1.9 to 1 significant figure = ⬚

So 5,624 ÷ 1.9 ≈ ⬚ ÷ ⬚ = ⬚

7 Estimate the answers to the divisions. Show your workings.

a)   487 ÷ 5.1   625 ÷ 2.8   8,450 ÷ 7.9

⬚   ⬚   ⬚

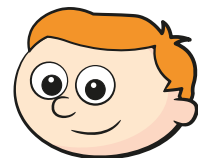**b)**   7,695 ÷ 4.2   7,695 ÷ 42   7,695 ÷ 420

⬚   ⬚   ⬚

8

To estimate the answer to 238 ÷ 2.99, I'm going to round 238 to 240 instead of 200

Explain why Ron's strategy is a good one.

9 **a)** Filip has not got his calculator.

He needs to estimate the square root of 78

Complete his workings.

78 > 64, so $\sqrt{78}$ > 8

78 < 81, so $\sqrt{78}$ < ⬚

So $\sqrt{78}$ is between ⬚ and ⬚

b) Use Filip's method to work out two consecutive integers between which these roots lie.

$\sqrt{19}$ is between ⬚ and ⬚

$\sqrt{50}$ is between ⬚ and ⬚

$\sqrt{110}$ is between ⬚ and ⬚

10 Work out estimates for the answers to the calculations.

a) $\dfrac{47 \times 29}{209}$ **c)** $\dfrac{193^2}{9.23 - 4.812}$ **e)** $\dfrac{3,175 + 6,842}{2.2 \times 4.9}$

⬚   ⬚   ⬚

b) $\dfrac{47 \times 29}{2,090}$ **d)** $\dfrac{32 \times 59}{61 \times 29}$ **f)** $\dfrac{86 \times 91}{0.51}$

⬚   ⬚   ⬚