Dividing decimals by decimals

1. Fluency

1. Divide the following decimals

a) 0.3 ÷ 0.2 b) 0.9 ÷ 0.3 c) 7.2 ÷ 0.8 d) 53.4 ÷ 0.6 e) 85.68 ÷ 0.04 f) 329.6 ÷ 0.16 g) 379.3 ÷ 0.05 h) 2.82 ÷ 0.012

2. Divide the following decimals

a) 8.4 ÷ -0.2 b) -0.75 ÷ 0.15 c) -3.3 ÷ -0.012 d) 0.72 ÷ -0.004 e) -6.84 ÷ 0.006 f) -0.84 ÷ -0.12 g) 24.98 ÷ -0.02 h) -0.5 ÷ 0.005

3. Evaluate the folowing

a) 6.2 + 4.5 ÷ 0.5 – 7.6 b) 10.4 ÷ 0.8 – 5.5 ÷ 0.7 c) 0.5(2.4 ÷ 0.04) d) 0.25(4 + 4.8 ÷ 0.6)

2. Reasoning

1. Alex knows that 9.6 ÷ 0.4 = 24. He uses this fact to calculate 0.96 ÷ 0.04. What is Alex's answer? Explain your reasoning

2. Which calculation below is the odd one out? Explain your reasoning.

a) 0.93 ÷ 0.03 b) 1.3 ÷ 0.2 c) 0.7 ÷ 0.07 d) 5.7 ÷ 0.9

3. Tina says that 1.4 + 9.2 ÷ 0.2 = 53 whereas Betty says that 1.4 + 9.2 ÷ 0.2 = 47.4 Who is correct? Justify your answer.

4. Yvonne says that 0.5 ÷ 0.01 = 5. Can you explain to Yvonne the common mistake she has made and what the correct answer should be?

5. Emily was asked to calculate 0.9 ÷ 0.28. Can you spot her mistake in the calculation below?

0.9 ÷ 0.18 (multiply each one by 10)
9 ÷ 18 = 0.5

3. Problem solving

1. Calculate the missing length x



Area = 9.9m²

2. Fill in the missing numbers in the following calculations

a) 0.4 x __ = 20.8 b) 0.7 x __ = 49 c) 56 x __ = 11.2

3. Can you create 2 dividing decimal questions where the answer would be 14?

4. Bert works 18.5 hours a week. His weekly pay comes to £159.10 Calculate the hourly rate that Bert is on.

5. Each stone in a bag weighs on average 0.8g . How many stones are in a bag that weighs 5kg?

6. Car A travels a distance of 22.5 miles in 30 minutes and car B travels a distance of 34.5 miles in 45 minutes. Which car is travelling faster?

Speed = Distance ÷ Time

Dividing decimals by decimals answers

1. Fluency

1. Divide the following decimals

a) 0.8 ÷ 0.2 4 b) 0.9 ÷ 0.3 3 c) 7.2 ÷ 0.8 9 d) 53.4 ÷ 0.6 89 e) 85.68 ÷ 0.04 2142 f) 329.6 ÷ 0.16 2060 g) 379.3 ÷ 0.05 7586 h) 2.82 ÷ 0.012 235

2. Divide the following decimals

a) 8.4 ÷ -0.2 -42 b) -0.75 ÷ 0.15 -5 c) -3.3 ÷ -0.012 275 d) 0.72 ÷ -0.004 -180 e) -6.84 ÷ 0.006 -1140 f) -0.84 ÷ -0.12 7 g) 24.98 ÷ -0.02 -1249 h) -0.5 ÷ 0.005 -100

3. Evaluate the following

a) 6.2 + 4.5 ÷ 0.5 – 7.6 7.6 b) 10.4 ÷ 0.8 – 5.5 ÷ 0.7 5 c) 0.5(2.4 ÷ 0.04) 30 d) 0.25(4 + 4.8 ÷ 0.6) 3

2. Reasoning

1. Alex knows that 9.6 ÷ 0.4 = 24. He uses this fact to calculate 0.96 ÷ 0.04. What is Alex's answer? Explain your reasoning

24

2. Which calculation below is the odd one out? Explain your reasoning.

Any with a valid reason e.g. the last one is the only one with an answer that is a recurring decimal.

a) 0.93 ÷ 0.03 b) 1.3 ÷ 0.2 c) 0.7 ÷ 0.07 d) 5.7 ÷ 0.9

3. Tina says that 1.4 + 9.2 ÷ 0.2 = 53 whereas Betty says that 1.4 + 9.2 ÷ 0.2 = 47.4 Who is correct? Justify your answer.

Betty as Tina has not used BIDMAS.

4. Yvonne says that 0.5 ÷ 0.01 = 5. Can you explain to Yvonne the common mistake she has made and what the correct answer should be?

The answer should be 50.

5. Emily was asked to calculate 0.9 ÷ 0.28. Can you spot her mistake in the calculation below?

0.9 ÷ 0.18
9 ÷ 18 = 0.5

It should be 90 ÷ 18 = 5 (multiply each one by 10)

3. Problem solving

1. Calculate the missing length x



1.8m

Area = 9.9m²

x

5.5m

2. Fill in the missing numbers in the following calculations

a) 0.4 x __ = 20.8 52 b) 0.7 x __ = 49 70 c) 56 x __ = 11.2 0.2

3. Can you create 2 dividing decimal questions where the answer would be 14?

E.g. 7 ÷ 0.5

4. Bert works 18.5 hours a week. His weekly pay comes to £159.10 Calculate the hourly rate that Bert is on.

£8.60

5. Each stone in a bag weighs on average 0.8g . How many stones are in a bag that weighs 5kg?

6250

6. Car A travels a distance of 22.5 miles in 30 minutes and car B travels a distance of 34.5 miles in 45 minutes. Which car is travelling faster?

Car A = 45mph, Car B = 46mph. Car B is travelling faster.

Speed = Distance ÷ Time