nexamind EDUCATION

Name _____ Date _____

4.4 Dividing decimals — worked answers

Divide decimals by whole numbers, rounding the answer to a given degree of accuracy where necessary. · 56 questions

A · Fluency — Divide decimals by whole numbers.

1 Work out **8.4 ÷ 4**

Answer: 2.1

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 8.4 ÷ 4 = 2.1.

2 Work out **9.6 ÷ 3**

Answer: 3.2

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 9.6 ÷ 3 = 3.2.

3 Work out **7.5 ÷ 5**

Answer: 1.5

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 7.5 ÷ 5 = 1.5.

4 Work out **12.6 ÷ 6**

Answer: 2.1

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 12.6 ÷ 6 = 2.1.

5 Work out **0.84 ÷ 4**

Answer: 0.21

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 0.84 ÷ 4 = 0.21.

6 Work out **5.55 ÷ 5**

Answer: 1.11

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 5.55 ÷ 5 = 1.11.

7 Work out **16.8 ÷ 8**

Answer: 2.1

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 16.8 ÷ 8 = 2.1.

8 Work out **2.46 ÷ 2**

Answer: 1.23

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 2.46 ÷ 2 = 1.23.

9 Work out **0.96 ÷ 3**

Answer: 0.32

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 0.96 ÷ 3 = 0.32.

10 Work out **23.4 ÷ 9**

Answer: 2.6

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 23.4 ÷ 9 = 2.6.

11 Work out **1.44 ÷ 4**

Answer: 0.36

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 1.44 ÷ 4 = 0.36.

12 Work out **6.35 ÷ 5**

Answer: 1.27

Divide as usual, keeping the decimal point in the answer directly above the one in the question: 6.35 ÷ 5 = 1.27.

13 Work out **3.6 ÷ 8**

Answer: 0.45

Add zeros after the decimal point and keep dividing until it stops: 3.6 ÷ 8 = 0.45.

14 Work out **7 ÷ 4**

Answer: 1.75

Add zeros after the decimal point and keep dividing until it stops: 7 ÷ 4 = 1.75.

15 Work out **9 ÷ 8**

Answer: 1.125

Add zeros after the decimal point and keep dividing until it stops: 9 ÷ 8 = 1.125.

16 Work out **1.2 ÷ 5**

Answer: 0.24

Add zeros after the decimal point and keep dividing until it stops: 1.2 ÷ 5 = 0.24.

17 Work out **4.5 ÷ 8**

Answer: 0.5625

Add zeros after the decimal point and keep dividing until it stops: 4.5 ÷ 8 = 0.5625.

18 Work out **13 ÷ 4**

Answer: 3.25

Add zeros after the decimal point and keep dividing until it stops: 13 ÷ 4 = 3.25.

19 Work out **0.7 ÷ 4**

Answer: 0.175

Add zeros after the decimal point and keep dividing until it stops: 0.7 ÷ 4 = 0.175.

20 Work out **2.7 ÷ 6**

Answer: 0.45

Add zeros after the decimal point and keep dividing until it stops: 2.7 ÷ 6 = 0.45.

21 Work out **15 ÷ 8**

Answer: 1.875
Add zeros after the decimal point and keep dividing until it stops: 15 ÷ 8 = 1.875.

22 Work out **3.5 ÷ 4**

Answer: 0.875
Add zeros after the decimal point and keep dividing until it stops: 3.5 ÷ 4 = 0.875.

23 Work out **0.9 ÷ 8**

Answer: 0.1125
Add zeros after the decimal point and keep dividing until it stops: 0.9 ÷ 8 = 0.1125.

24 Work out **11 ÷ 5**

Answer: 2.2
Add zeros after the decimal point and keep dividing until it stops: 11 ÷ 5 = 2.2.

B · Reasoning — Adding zeros, and rounding a division.

25 When you divide a decimal by a whole number, where does the decimal point go in the answer?

- ☐ At the end
- ☐ Directly above the point in the question
- ☐ One place further right
- ☐ You decide at the end

Answer: Directly above the point in the question
Set the division out so the points line up vertically.

26 Why can you write 7 as 7.000 when dividing by 4?

- ☐ To make it bigger
- ☐ Because adding zeros after the point does not change it
- ☐ Because 4 has one digit
- ☐ You cannot

Answer: Because adding zeros after the point does not change it
7 = 7.000, so you can keep dividing until the remainder is zero: 7 ÷ 4 = 1.75.

27 Work out 7 ÷ 4.

Answer: 1.75
7.00 ÷ 4 = 1.75.

28 Work out 9 ÷ 8.

Answer: 1.125
9.000 ÷ 8 = 1.125.

29 Work out 8.46 ÷ 7, giving your answer to 2 decimal places.

Answer: 1.21
Work to 3 decimal places first: 1.208... , then round to 1.21.

30 Work out 7.62 ÷ 5, giving your answer to 1 decimal place.

Answer: 1.5
7.62 ÷ 5 = 1.524, which rounds to 1.5.

31 Work out 9.428 ÷ 7, giving your answer to 2 decimal places.

Answer: 1.35

9.428 ÷ 7 = 1.3468..., which rounds to 1.35.

32 Work out 8.6 ÷ 13, giving your answer to 3 decimal places.

Answer: 0.662

8.6 ÷ 13 = 0.66153..., which rounds to 0.662.

33 Zara works a division out to 3 decimal places when she only needs 2. Why?

- ☐ To show off
- ☐ She needs the extra digit to decide how to round
- ☐ Because the answer has 3 places
- ☐ It is a rule for all divisions

Answer: She needs the extra digit to decide how to round

Always work to **one more** decimal place than the accuracy you need.

34 Find the missing number: ? ÷ 6 = 2.5

Answer: 15

Multiply to undo the division: 2.5 × 6 = 15.

35 Find the missing number: 8.4 ÷ ? = 2.1

Answer: 4

8.4 ÷ 2.1 = 4.

36 Does dividing by a whole number bigger than 1 always make the answer smaller?

- ☐ Yes
- ☐ No

Answer: Yes

Sharing between more than one part always gives less each: 8.4 ÷ 4 = 2.1.

C · Challenge — Several steps and non-terminating answers.

37 Work out 12.6 ÷ 6 ÷ 7.

Answer: 0.3

12.6 ÷ 6 = 2.1, then 2.1 ÷ 7 = 0.3.

38 Work out (8.4 + 3.6) ÷ 8.

Answer: 1.5

Brackets first: 12, then 12 ÷ 8 = 1.5.

39 Work out 100 ÷ 7, giving your answer to 2 decimal places.

Answer: 14.29

100 ÷ 7 = 14.2857..., which rounds to 14.29.

40 Work out 2 ÷ 3, giving your answer to 3 decimal places.

Answer: 0.667

2 ÷ 3 = 0.6666..., which rounds to 0.667.

41 A number divided by 8 gives 1.125. What is the number?

Answer: 9

1.125 × 8 = 9.

42 Work out 0.84 ÷ 4 × 100.

Answer: 21

0.84 ÷ 4 = 0.21, and × 100 = 21.

43 $50 is shared equally between 3 people. How much each, to the nearest cent? Give the number of dollars.

Answer: 16.67

50 ÷ 3 = 16.666..., so $16.67.

44 A 12 m rope is cut into 7 equal pieces. How long is each, to 2 decimal places, in metres?

Answer: 1.71

12 ÷ 7 = 1.7142..., so 1.71 m.

D · Word problems — Sharing money, lengths and masses.

45 Four friends share a bill of $23.40 equally. How much does each pay, in dollars?

Answer: 5.85

23.40 ÷ 4 = $5.85.

46 A 8.4 m plank is cut into 4 equal pieces. How long is each, in metres?

Answer: 2.1

8.4 ÷ 4 = 2.1 m.

47 A 5.55 kg bag of flour is split equally into 5 tubs. How much in each, in kg?

Answer: 1.11

5.55 ÷ 5 = 1.11 kg.

48 A car travels 16.8 km using 8 litres of fuel. How far per litre, in km?

Answer: 2.1

16.8 ÷ 8 = 2.1 km per litre.

49 A 23.4 m roll of tape is cut into 9 equal strips. How long is each, in metres?

Answer: 2.6

23.4 ÷ 9 = 2.6 m.

50 Six identical books weigh 12.6 kg. What is the mass of one, in kg?

Answer: 2.1

12.6 ÷ 6 = 2.1 kg.

51 A 3.6 m ribbon is shared between 8 people. How much each, in metres?

Answer: 0.45

3.6 ÷ 8 = 0.45 m.

52 A journey of 100 km takes 7 hours. What is the average speed, to 2 decimal places, in km/h?

Answer: 14.29

100 ÷ 7 = 14.29 km/h.

53 A 6.35 litre container is emptied into 5 equal jugs. How much in each, in litres?

Answer: 1.27

6.35 ÷ 5 = 1.27 litres.

54 Eight people share $9 equally. How much each, in dollars?

Answer: 1.125

9 ÷ 8 = 1.125, which as money would be rounded to $1.13.

55 A wall 2.46 m long is divided into 2 equal panels. How wide is each, in metres?

Answer: 1.23

2.46 ÷ 2 = 1.23 m.

56 A 15 kg sack is split into 8 equal bags. How much in each, in kg?

Answer: 1.875

15 ÷ 8 = 1.875 kg.