

Decimal Fractions and Decimals: practice solutions, Grade 4 – download the PDF

Written solutions to the chapter problems. Check each step, then correct yourself.

1 Reading a hundred grid



- a. There are 46 shaded squares out of 100, so the fraction is $\frac{46}{100}$.
- b. 46 hundredths is written 0.46.

Answer: $\frac{46}{100} = 0.46$.

2 Fractions to decimals



- a. 7 tenths: 0.7.
- b. 9 hundredths needs a zero in the tenths place: 0.09.
- c. 53 hundredths: 0.53.
- d. 4 tenths: 0.4.

3 Decimals to fractions



- a. 0.8 has one decimal place: $\frac{8}{10}$.
- b. 0.05 has two decimal places: $\frac{5}{100}$.
- c. $\frac{62}{100}$.
- d. $\frac{3}{10}$.

4 Words to numbers



- a. 0.7
- b. 0.29
- c. 4.6 (4 ones and 6 tenths)
- d. 3.08 (3 ones, 0 tenths, 8 hundredths)

5 Value of each digit



The 5 is in the ones place, so it is worth 5. The 3 is in the tenths place, so it is worth 3 tenths, which is 0.3. The 7 is in the hundredths place, so it is worth 7 hundredths, which is 0.07.

Check: $5 + 0.3 + 0.07 = 5.37$.

6 Reading a number line



Each step is one tenth, or 0.1. Point A is 2 steps from 0, so $A = 0.2$. Point B is 7 steps from 0, so $B = 0.7$.

7 Coins



3 dimes are $3 \times 0.10 = 0.30$ dollar. 5 pennies are $5 \times 0.01 = 0.05$ dollar. Together:
 $0.30 + 0.05 = 0.35$.

Answer: Maya has \$0.35.

8 Tenths to hundredths



a. Multiply top and bottom by 10: $\frac{30}{100}$.

b. $\frac{90}{100}$.

c. $\frac{40}{100}$.

d. Divide top and bottom by 10: $\frac{6}{10}$.

9 Adding with unlike denominators



a. $\frac{3}{10} = \frac{30}{100}$, so $\frac{30}{100} + \frac{4}{100} = \frac{34}{100} = 0.34$.

b. $\frac{5}{10} = \frac{50}{100}$, so $\frac{50}{100} + \frac{27}{100} = \frac{77}{100} = 0.77$.

10 Which is greater?



a. $0.4 = 0.40$, and 40 hundredths is more than 38 hundredths, so $0.4 > 0.38$.

b. 7 hundredths is less than 7 tenths: $0.07 < 0.7$.

c. $1.3 = 1.30$, and 125 hundredths is less than 130 hundredths: $1.25 < 1.3$.

d. $\frac{50}{100} = \frac{5}{10}$, so $0.50 = 0.5$.

11 True or false?



a. True: $\frac{5}{10} = \frac{50}{100}$.

b. True: $0.3 = 0.30$ and 30 hundredths is more than 25 hundredths.

c. False: $0.1 = 0.10$ and 10 hundredths is more than 9 hundredths.

d. False: $\frac{6}{10} = 0.6$. The decimal 0.06 is $\frac{6}{100}$.

12 Putting in order



Write them in hundredths: 0.60, 0.06, 0.66, 0.16, 1.06. The only one with a 1 in the ones place is 1.06, so it is the greatest. Among the others: 6, 16, 60, 66 hundredths.

Answer: $0.06 < 0.16 < 0.6 < 0.66 < 1.06$.

13 Saving for a book



Sam has $2 + 0.30 + 0.04 = 2.34$ dollars. Compare: 2.34 is less than 2.43, so Sam does not have enough.

Missing: $2.43 - 2.34 = 0.09$.

Answer: No, Sam is missing \$0.09 (9 pennies).

14 Reading hundredths



a. Each step is 0.01. P is 2 steps after 0.3, so $P = 0.32$. Q is 7 steps after 0.3, so $Q = 0.37$.

b. Q is 3 steps from 0.4, and P is 8 steps from 0.4. So Q is closer to 0.4.

15 Ribbon

Rename the first length: $\frac{3}{10} = \frac{30}{100}$.

Add: $\frac{30}{100} + \frac{25}{100} = \frac{55}{100}$.

Answer: The pieces measure $\frac{55}{100}$ meter, which is 0.55 meter, together.

16 Expanded form

a. 4 ones, 0 tenths and 7 hundredths: 4.07.

b. 12 ones, 3 tenths, 8 hundredths: 12.38.

c. $6.52 = 6 + \frac{5}{10} + \frac{2}{100}$.

17 Mystery number

A number between 0.4 and 0.5 has 4 in the tenths place. The hundredths digit is $4 + 3 = 7$.

Answer: I am 0.47. Check: $0.4 < 0.47 < 0.5$.

18 Find the mistake

Jaden is not right. He compared 35 and 4 as if the digits had no place values. The numbers must be compared in the same place: $0.4 = 0.40$, which is 40 hundredths. Since 40 is greater than 35, $0.4 > 0.35$.

19 Swim meet

Write the times in hundredths: Ava 12.45, Ben 12.50, Cora 12.05, Dev 12.54. All have 12 ones. Compare tenths: Cora has 0, Ava has 4, Ben has 5 and Dev has 5. Ben and Dev tie in tenths, and $50 < 54$ in hundredths.

Answer: Cora (12.05), Ava (12.45), Ben (12.5), Dev (12.54). Cora wins.

20 At the store

Total: $1.75 + 0.60 = 2.35$ dollars. Change: $5.00 - 2.35 = 2.65$ dollars.

Check: $2.35 + 2.65 = 5.00$.

Answer: The total is \$2.35 and Omar gets \$2.65 in change.

21 Three pieces of wire

Rename the tenths: $\frac{4}{10} = \frac{40}{100}$ and $\frac{6}{10} = \frac{60}{100}$.

Add: $\frac{40}{100} + \frac{15}{100} + \frac{60}{100} = \frac{115}{100} = 1.15$.

Answer: The total is 1.15 meters, which is more than 1 meter.

22 Closest to one half

Find the gaps. $0.5 - 0.47 = 0.03$ and $0.55 - 0.5 = 0.05$. Since 3 hundredths is less than 5 hundredths, 0.47 is closer.

Answer: 0.47 is closer to 0.5.



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