

Converting Between Fractions and Decimals

Unit: Fractions and Decimals - Student Practice Worksheet

Overview: Kabir wrote $\frac{3}{4}$ on one side of the board and 0.75 on the other, insisting they were two totally different numbers. Anaya divided 3 by 4 on paper and got exactly 0.75, no remainder, no argument. Fractions and decimals turned out to be two different costumes for the exact same number.

Practice Questions (30 Total)

Section A - Easy

Q1. Seven teal tenths of the bar. What decimal is $\frac{7}{10}$?



- ☐ A. 0.7
- ☐ B. 7.0
- ☐ C. 0.07
- ☐ D. 70

Q2. How do you convert a fraction to a decimal?

- ☐ A. Add numerator and denominator
- ☐ B. Multiply numerator by denominator
- ☐ C. Divide numerator by denominator
- ☐ D. Subtract denominator from numerator

Q3. Convert $\frac{23}{100}$ to a decimal.

- ☐ A. 2.3
- ☐ B. 0.23
- ☐ C. 23.0
- ☐ D. 0.023

Q4. Three of four equal bars. What decimal is $\frac{3}{4}$?



3 of 4

- ☐ A. 0.34
- ☐ B. 3.4
- ☐ C. 0.43
- ☐ D. 0.75

Q5. What is a terminating decimal?

- ☐ A. One that repeats forever
- ☐ B. One that ends after a few digits
- ☐ C. A whole number
- ☐ D. A negative decimal

Q6. Convert 0.6 to a fraction.

- ☐ A. $\frac{6}{10}$
- ☐ B. $\frac{6}{100}$
- ☐ C. $\frac{1}{6}$
- ☐ D. $\frac{60}{10}$

Q7. The thousandths digit is 9. What decimal is $\frac{9}{1000}$?

0 . 0 0 9

thousandths: $\frac{9}{1000}$

- ☐ A. 0.09
- ☐ B. 0.9
- ☐ C. 0.009
- ☐ D. 9.000

Q8. What does $\frac{1}{3}$ convert to as a decimal?

- ☐ A. 0.333... (repeating)
- ☐ B. 0.3 exactly
- ☐ C. 0.13
- ☐ D. 3.0

Q9. Simplify the fraction 6/10.

- ☐ A. $\frac{6}{5}$
- ☐ B. $\frac{3}{5}$
- ☐ C. $\frac{3}{10}$
- ☐ D. $\frac{2}{5}$

Q10. Write 0.25 as a hundredths fraction, then name the place-value step.

- ☐ A. $\frac{25}{10}$
- ☐ B. $\frac{2}{5}$
- ☐ C. $\frac{1}{25}$
- ☐ D. $\frac{25}{100}$

Section B - Medium

Q11. $\frac{7}{20}$ scaled to hundredths becomes $\frac{35}{100}$. What decimal is that?

$$\frac{7}{20} \times \frac{5}{5}$$

$$\frac{35}{100}$$

- ☐ A. 0.35
- ☐ B. 0.7
- ☐ C. 0.20
- ☐ D. 3.5

Q12. Which fraction does NOT convert cleanly to a terminating decimal: $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$?

- ☐ A. $\frac{1}{2}$
- ☐ B. $\frac{1}{3}$
- ☐ C. $\frac{1}{4}$
- ☐ D. All three convert cleanly

Q13. Convert 0.45 to a fraction in simplest form.

- ☐ A. $\frac{45}{10}$
- ☐ B. $\frac{9}{20}$
- ☐ C. $\frac{9}{2}$
- ☐ D. $\frac{45}{1000}$

Q14. Three of five teal bars. Equivalent tenths decimal for $\frac{3}{5}$?



- ☐ A. 0.35
- ☐ B. 3.5
- ☐ C. 0.6
- ☐ D. 0.53

Q15. Convert 0.5 and $\frac{1}{2}$ — are they the same value?

- ☐ A. No, different
- ☐ B. Yes, same value
- ☐ C. Only sometimes
- ☐ D. Cannot compare

Q16. Convert 0.125 to a fraction in simplest form.

- ☐ A. $\frac{125}{10}$
- ☐ B. $\frac{1}{125}$
- ☐ C. $\frac{5}{8}$
- ☐ D. $\frac{1}{8}$

Q17. Three maroon eighths of a kilogram. What decimal mass is $\frac{3}{8}$ kg?



- ☐ A. 0.375 kg
- ☐ B. 0.38 kg
- ☐ C. 3.8 kg
- ☐ D. 0.83 kg

Q18. Convert $\frac{4}{5}$ to a decimal.

- ☐ A. 0.45
- ☐ B. 4.5
- ☐ C. 0.54

☐ D. 0.8

Q19. Convert $11/25$ to a decimal using an equivalent fraction with denominator 100.

☐ A. 0.44

☐ B. 0.25

☐ C. 1.1

☐ D. 0.11

Q20. 0.08 as a simplest fraction, using hundredths then dividing.

☐ A. $8/10$

☐ B. $4/5$

☐ C. $2/25$

☐ D. $8/1000$

Section C - Challenge

Q21. $17/40$ scaled to thousandths is $425/1000$. What decimal?

$$17/40 \times 25/25$$

$$425/1000$$

☐ A. 0.17

☐ B. 1.7

☐ C. 0.425

☐ D. 0.40

Q22. Why do fractions with denominators like 3, 6, or 7 often NOT convert to clean terminating decimals?

☐ A. Their denominators can't be turned into an exact power of 10 by multiplying by a whole number

☐ B. This is actually never true, all fractions terminate

☐ C. Only even denominators can ever terminate

☐ D. It depends only on the numerator, not the denominator

Q23. Kabir has 0.6 kg of flour and needs $2/3$ kg for a recipe. Does he have enough?

☐ A. Yes, he has more than enough

☐ B. No — $2/3$ is about 0.667 kg, more than his 0.6 kg

- ☐ C. They are exactly equal amounts
- ☐ D. Cannot be compared at all

Q24. Four of ten teal parts (0.4). Why simplify 4/10 further?



4/10 of the bar

- ☐ A. 4/10 is actually the wrong value entirely
- ☐ B. Simplifying is optional and never actually needed
- ☐ C. 4/10 is a correct but not simplest form; 2/5 is the fully reduced equivalent
- ☐ D. Only decimals with 3+ digits need simplifying

Q25. Which denominators CAN always be converted to a power-of-10 equivalent: those made only of 2s and 5s as factors, or any denominator at all?

- ☐ A. Any denominator whatsoever, without exception
- ☐ B. Only denominators built only from 2s and 5s
- ☐ C. Only prime-numbered denominators
- ☐ D. Only odd denominators

Q26. Anaya converts 3/8 by direct long division instead of finding an equivalent fraction. Does she still get the correct decimal?

- ☐ A. No, only the equivalent-fraction method is valid
- ☐ B. Division gives a different, wrong answer
- ☐ C. Division only works for fractions under 1/2
- ☐ D. Yes, division always gives the exact correct decimal, matching the equivalent-fraction method

Q27. Teal 0.75 plus maroon 0.25 fill one whole. What does that confirm?



0.75 + 0.25

- ☐ A. Fractions and decimals give contradictory answers
- ☐ B. Only decimals can be added correctly
- ☐ C. 3/4 and 1/4 are not actually related to 0.75 and 0.25

- ☐ **D.** The two conversion methods (decimal and fraction) are consistent with each other

Q28. Why is 0.5 considered exactly equal to $\frac{1}{2}$, and not just approximately equal?

- ☐ **A.** 1 divided by 2 gives exactly 0.5 with no remainder or rounding at all
- ☐ **B.** It is only approximately equal, never exact
- ☐ **C.** 0.5 and $\frac{1}{2}$ represent unrelated quantities
- ☐ **D.** Equality only applies to whole numbers

Q29. What determines whether a fraction's decimal form terminates or repeats forever?

- ☐ **A.** Whether the numerator is even or odd
- ☐ **B.** Whether the simplified denominator's only prime factors are 2 and/or 5
- ☐ **C.** Whether the fraction is bigger or smaller than 1
- ☐ **D.** It is completely random and unpredictable

Q30. Why convert freely between fractions and decimals in money and measures?

- ☐ **A.** Different situations naturally call for one form or the other, so fluency in both avoids being stuck
- ☐ **B.** Real life never actually uses fractions
- ☐ **C.** Real life never actually uses decimals
- ☐ **D.** The two forms are entirely unrelated to real measurements

Answer Key

Q1: (A) (a) 0.7.

Q2: (C) (c) Divide numerator by denominator.

Q3: (B) (b) 0.23.

Q4: (D) (d) 0.75. $3 \div 4 = 0.75$.

Q5: (B) (b) One that ends after a finite number of digits.

Q6: (A) (a) $6/10$. Read as six tenths.

Q7: (C) (c) 0.009.

Q8: (A) (a) 0.333... (repeating). This is a recurring decimal that never ends.

Q9: (B) (b) $3/5$. Both 6 and 10 divide by 2.

Q10: (D) (d) $25/100$. Read as twenty-five hundredths.

Q11: (A) (a) 0.35. $7/20 \times 5/5 = 35/100 = 0.35$.

Q12: (B) (b) $1/3$. It produces the repeating decimal 0.333...

Q13: (B) (b) $9/20$. $45/100$ simplifies by dividing both by 5.

Q14: (C) (c) 0.6. $3/5 \times 2/2 = 6/10 = 0.6$.

Q15: (B) (b) Yes. $1 \div 2 = 0.5$ exactly.

Q16: (D) (d) $1/8$. $125/1000$ simplifies by dividing both by 125.

Q17: (A) (a) 0.375 kg. $3 \div 8 = 0.375$ exactly.

Q18: (D) (d) 0.8. $4/5 \times 2/2 = 8/10 = 0.8$.

Q19: (A) (a) 0.44. $11/25 \times 4/4 = 44/100 = 0.44$.

Q20: (C) (c) $2/25$. $8/100$ simplifies by dividing both by 4.

Q21: (C) (c) 0.425. $17/40 \times 25/25 = 425/1000 = 0.425$.

Q22: (A) (a) Their denominators can't be turned into an exact power of 10 by multiplying by a whole number, since 3, 6, and 7 don't divide evenly into any power of 10.

Q23: (B) (b) No — $2/3$ is about 0.667 kg, more than his 0.6 kg, so he is short by roughly 0.067 kg.

Q24: (C) (c) $4/10$ is a correct but not simplest form; $2/5$ is the fully reduced equivalent, obtained by dividing both by their HCF, 2.

Q25: (B) (b) Only denominators built from 2s and 5s (like 2, 4, 5, 8, 10, 20, 25), since $10 = 2 \times 5$, so only these factors can be scaled up to a power of 10.

Q26: (D) (d) Yes, division always gives the exact correct decimal, matching the equivalent-fraction method — both are simply different routes to the same value, 0.375.

Q27: (D) (d) The two conversion methods (decimal and fraction) are consistent with each other — arithmetic gives matching answers whether done in decimal or fraction form.

Q28: (A) (a) 1 divided by 2 gives exactly 0.5 with no remainder or rounding at all, making them precisely, not approximately, equal.

Q29: (B) (b) Whether the simplified denominator's only prime factors are 2 and/or 5 — any other prime factor (like 3 or 7) guarantees a repeating decimal.

Q30: (A) (a) Different situations naturally call for one form or the other, so fluency in both avoids being stuck — money is naturally decimal, while recipes and measurements often use fractions.

You've got this! Keep learning and shining! - Ruchi Math Coaching