Types of Fractions

Unit: Fractions and Decimals - Student Practice Worksheet

Overview: Kabir cut a pizza into 4 slices and ate 3, calling it 3/4. Anaya cut a bigger pizza into 4 slices and ate all 5 she'd cooked separately, calling it 5/4. Ms. Rao pointed out that 3/4 and 5/4 aren't the same kind of fraction at all. One stays neatly under a whole; the other spills over into more than one whole entirely.

Practice Questions (30 Total)

Section A - Easy

Q1. Three of four bars are teal. Is 3/4 proper or improper?

3 of 4 shaded

- ☐ **A.** Improper
- ☐ **B.** Proper
- ☐ **C.** Neither
- ☐ **D.** A mixed number

Q2. What is a proper fraction?

- ☐ **A.** Numerator smaller than denominator
- ☐ **B.** Numerator bigger than denominator
- ☐ **C.** Numerator equal to 1
- ☐ **D.** A whole number

Q3. Is 5/4 proper or improper?

- ☐ **A.** Proper
- ☐ **B.** Neither
- ☐ **C.** Improper
- ☐ **D.** Undefined

Q4. One maroon slice of seven. Which is the unit fraction?

one maroon slice of 7

- [ ] **A.** 1/7
- [ ] **B.** 2/7
- [ ] **C.** 7/7
- [ ] **D.** 7/2

Q5. What is a unit fraction?

- [ ] **A.** Denominator equals 1
- [ ] **B.** Numerator equals denominator
- [ ] **C.** A negative fraction
- [ ] **D.** Numerator equals 1

Q6. Convert 5/4 to a mixed number.

- [ ] **A.** 4¼
- [ ] **B.** 2¼
- [ ] **C.** 1¼
- [ ] **D.** 1½

Q7. The full teal bar is 4/4. What does that equal?

full bar

- [ ] **A.** 4 wholes
- [ ] **B.** 0
- [ ] **C.** 1/4
- [ ] **D.** 1 whole

Q8. What is a mixed number?

- [ ] **A.** Two fractions added together
- [ ] **B.** A whole number plus a proper fraction
- [ ] **C.** A fraction with denominator 1
- [ ] **D.** A fraction bigger than 100

Q9. Is 9/2 proper or improper?

- A. Improper
- B. Proper
- C. Neither
- D. A unit fraction

Q10. Which is proper, and why does comparing top and bottom decide it?

- A. 9/5
- B. 5/9
- C. 9/9
- D. 10/9

Section B - Medium

Q11. Two full bars plus a maroon 3/4 piece: that is 11/4. Mixed number?

11 quarters

- A. 2¾
- B. 3¼
- C. 2½
- D. 4¼

Q12. Kabir says all unit fractions are also proper fractions (except 1/1). Is he right?

- A. No, unit fractions are always improper
- B. Only true for even denominators
- C. Unit fractions can never be proper
- D. Yes, since numerator 1 is smaller than any denominator bigger than 1

Q13. Convert the mixed number 3■ into an improper fraction.

- A. 15/5
- B. 17/5
- C. 8/5
- D. 13/5

Q14. Two equal teal wholes. Which fraction is exactly 2?

6/3 as two wholes

- [ ] **A.** 5/3
- [ ] **B.** 3/6
- [ ] **C.** 6/3
- [ ] **D.** 2/3

Q15. Which of these fractions is NOT improper?

- [ ] **A.** 8/5
- [ ] **B.** 5/8
- [ ] **C.** 8/8
- [ ] **D.** 9/8

Q16. Convert 7/3 into a mixed number.

- [ ] **A.** 2■
- [ ] **B.** 1■
- [ ] **C.** 3■
- [ ] **D.** 2■

Q17. Twelve slices, one maroon. Which is the unit fraction?

1 maroon of 12

- [ ] **A.** 2/12
- [ ] **B.** 12/12
- [ ] **C.** 12/1
- [ ] **D.** 1/12

Q18. Which of these is both improper AND exactly equal to a whole number?

- [ ] **A.** 7/5
- [ ] **B.** 10/5
- [ ] **C.** 4/5

- [ ] **D.** 1/5

Q19. Convert 4¾ into an improper fraction.

- [ ] **A.** 16/4
- [ ] **B.** 20/4
- [ ] **C.** 19/4
- [ ] **D.** 7/4

Q20. Nine quarter-pieces of cake: improper form and mixed number, linked.

- [ ] **A.** 9/4, which equals 2¼
- [ ] **B.** 4/9, which equals ■
- [ ] **C.** 9/4, which equals 3¼
- [ ] **D.** 9/1, which equals 9 wholes

Section C - Challenge

Q21. Three teal unit bars. Why is every whole also a fraction?

3 = 3/1

- [ ] **A.** Any whole number n can be written as n/1
- [ ] **B.** Whole numbers are never fractions
- [ ] **C.** Only even whole numbers can be fractions
- [ ] **D.** This is only true for the number 1

Q22. Can a fraction be simultaneously a unit fraction AND an improper fraction?

- [ ] **A.** Yes, always, for any denominator
- [ ] **B.** Only if the denominator is exactly 1, like 1/1
- [ ] **C.** No, never, under any circumstance
- [ ] **D.** Only for even denominators

Q23. Which is bigger: the improper fraction 23/5, or the mixed number 4■?

- [ ] **A.** They are exactly equal
- [ ] **B.** 23/5 is bigger
- [ ] **C.** 4■ is bigger

- [ ] **D.** Cannot be compared

Q24. 13 eighths: 8 teal plus 5 maroon. Improper and mixed form?

8 teal + 5 maroon eighths

- [ ] **A.** 13/8, equal to 1■
- [ ] **B.** 8/13, equal to ■
- [ ] **C.** 13/8, equal to 2■
- [ ] **D.** 13/1, equal to 13 wholes

Q25. Kabir claims mixed numbers and improper fractions represent completely different values. Is this true?

- [ ] **A.** Yes, they are always mathematically unequal
- [ ] **B.** Only true for fractions bigger than 10
- [ ] **C.** No — they are just two different ways to write the exact same value
- [ ] **D.** Mixed numbers are always bigger

Q26. Anaya has an improper fraction where the whole-number part comes out to exactly 0. What does this tell you?

- [ ] **A.** This is completely normal for any improper fraction
- [ ] **B.** It means the fraction is negative
- [ ] **C.** This cannot actually happen — improper fractions always have a whole-number part of at least 1
- [ ] **D.** It means the fraction is a unit fraction

Q27. Maroon 1/n sits before 1. Where do unit fractions live, except 1/1?

- [ ] **A.** Improper, always, with no exceptions
- [ ] **B.** Proper, since 1 is smaller; but 1/1 equals 1 whole
- [ ] **C.** Mixed number, always
- [ ] **D.** There is no meaningful category here

Q28. Why must you find how many times the denominator fits into the numerator to convert an improper fraction to a mixed number?

- [ ] **A.** It has nothing to do with the whole-number part
- [ ] **B.** The denominator is simply discarded
- [ ] **C.** Only the numerator matters
- [ ] **D.** That count IS the whole-number part

Q29. Why is understanding proper vs improper fractions important before learning to add or subtract fractions?

- [ ] **A.** Addition and subtraction never produce improper results
- [ ] **B.** It has no real connection to addition or subtraction
- [ ] **C.** Only proper fractions can ever be added
- [ ] **D.** Results bigger than a whole need converting back to mixed numbers to read easily

Q30. Why are unit fractions building blocks, as a copies of 1/b?

- [ ] **A.** Because all fractions eventually simplify to unit fractions
- [ ] **B.** Any fraction a/b can be seen as a copies of the unit fraction 1/b
- [ ] **C.** Because unit fractions are always the largest possible fractions
- [ ] **D.** There is no real reason for this name

Answer Key

Q1: (B) (b) Proper. 3<4.

Q2: (A) (a) Numerator smaller than denominator.

Q3: (C) (c) Improper. 5>4.

Q4: (A) (a) 1/7. Its numerator is 1.

Q5: (D) (d) Numerator equals 1.

Q6: (C) (c) 1¼. 5/4 = 4/4+1/4 = 1 whole and 1/4.

Q7: (D) (d) 1 whole. Numerator equals denominator.

Q8: (B) (b) A whole number plus a proper fraction.

Q9: (A) (a) Improper. 9>2.

Q10: (B) (b) 5/9. 5<9.

Q11: (A) (a) 2¾. 11/4 = 8/4+3/4 = 2 wholes and 3/4.

Q12: (D) (d) Yes, since numerator 1 is smaller than any denominator bigger than 1, making it proper by definition.

Q13: (B) (b) 17/5. 3 wholes = 15/5, plus 2/5 = 17/5.

Q14: (C) (c) 6/3. 6 divided by 3 equals 2 exactly.

Q15: (B) (b) 5/8. Its numerator 5 is smaller than its denominator 8, making it proper.

Q16: (A) (a) 2■. 7/3 = 6/3+1/3 = 2 wholes and 1/3.

Q17: (D) (d) 1/12. Numerator is exactly 1.

Q18: (B) (b) 10/5. It's improper (10>5) and equals exactly 2, a whole number.

Q19: (C) (c) 19/4. 4 wholes = 16/4, plus 3/4 = 19/4.

Q20: (A) (a) 9/4, which equals 2¼. 9 quarters = 8/4+1/4 = 2 wholes and 1/4.

Q21: (A) (a) Any whole number n can be written as n/1, technically making every whole number a fraction with denominator 1.

Q22: (B) (b) Only if the denominator is exactly 1, like 1/1 — otherwise a unit fraction (numerator 1) with denominator greater than 1 is always proper, not improper.

Q23: (A) (a) They are exactly equal. 23/5 = 20/5+3/5 = 4 wholes and 3/5 = 4■.

Q24: (A) (a) 13/8, equal to 1■. 13 eighths = 8/8+5/8 = 1 whole and 5/8.

Q25: (C) (c) No — they are just two different ways to write the exact same value, like 5/4 and 1¼.

Q26: (C) (c) This cannot actually happen — improper fractions always have a whole-number part of at least 1, by definition (numerator at least equal to denominator).

Q27: (B) (b) Proper, since numerator 1 is always smaller than a bigger denominator; but 1/1 is the boundary case that equals exactly 1 whole rather than being less than one.

Q28: (D) (d) That count IS the whole-number part, and the leftover (the remainder) becomes the numerator of the fraction part.

Q29: (D) (d) Results bigger than a whole need converting back to mixed numbers to read easily, so recognising an improper result matters for interpreting the final answer.

Q30: (B) (b) Any fraction a/b can be seen as a copies of the unit fraction 1/b — for example 3/4 is three copies of 1/4.

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