

% Percent & Ratio Intro

Name: _____

Grade: 5

Date: _____

Link fractions, decimals, percents & ratios. Use benchmark percents (10%, 25%, 50%, 75%, 100%) and quick strategies (1%, $\times 10$, quarters, halves) to solve real problems.

Part 1 · Fraction $\rightleftharpoons$ Percent $\rightleftharpoons$ Decimal CONVERT

(1. $1/2 =$ _____ % = _____

(2. $3/4 =$ _____ % = _____

(3. $2/5 =$ _____ % = _____

(4. $7/10 =$ _____ % = _____

(5. 12.5% = _____ (fraction simplest)

(6. 0.45 = _____ % = _____ (fraction simplest)

Part 2 · Benchmark Reasoning BENCH

(7. Closer to 50%: 47% or 54%?

(8. 80% is 50% + _____ % + _____ %

(9. 75% of a number is its _____ plus its _____

(10. 25% = _____ / 100 = _____ fraction simplest

(11. 10% of 640 = _____ ; 1% = _____

(12. 60% of 50 (use 10% chunk) = _____

Part 3 · Percent of a Number PART

(13. 25% of 84 = _____

(14. 50% of 316 = _____

(15. 10% of 470 = _____

(16. 75% of 120 = _____

(17. 30% of 90 = _____

(18. 15% of 60 (10% + 5%) = _____

Part 4 · Ratios & Forms RATIO

(19. Write ratio cats 6 to dogs 8 in simplest form = _____

(20. 3:5 as a fraction of whole = _____ of total

(21. Fraction $\frac{2}{5}$ as ratio part:whole = _____:_____

(22. If red:blue = 2:3, fraction that are blue = _____

(23. Ratio 4:6 simplified = _____:_____ = fraction _____

(24. If 40 students, ratio girls:boys = 3:5 $\rightarrow$ boys = _____

Part 5 · Equivalent Percents & Fractions EQUIV

(25. 20% = _____/100 = fraction simplest _____

(26. 40% = _____ fraction simplest

(27. 60% = _____ fraction simplest

(28. 90% = _____ fraction simplest

(29. $\frac{12}{25}$ = _____% (hint $\times 4$)

(30. $\frac{7}{20}$ = _____% (hint $/20 \rightarrow /100$)

Part 6 · Word Problems REAL

SALE 31. A \$40 game is 25% off. Discount = \$_____ ; sale price = \$_____

SURVEY 32. 60% of 250 students like soccer. Number = _____

SAVINGS 33. Saved 30% of \$90. You saved \$_____ ; need \$_____ more for full amount.

CLASS 34. Class ratio pencils working:broken = 7:3. Fraction broken = _____ ; percent $\approx$ _____%

RECIPE 35. 15% of a 80 g mix is spice. Grams spice = _____

SCREEN 36. Battery at 40%, total 5,000 mAh. Remaining mAh = _____

Part 7 · Error Analysis & Strategy FIX

37. Error: Student says $0.6 = 6\%$. Correct percent & mistake: _____ / _____

38. Error: Called $3:5 = 3/10$. Correct fraction of total & reason: _____ / _____

39. Student finds 25% of 48 by $48 \div 2 = 24$. Correct answer & why: _____ / _____

Part 8 · Challenge & Reflection CHALLENGE

40. 18 is 30% of what number? _____

(41. A number increases from 40 to 50. Percent increase = _____%

(42. Find 12.5% of 96 = _____ (use $\frac{1}{8}$)

(43. 45% of 200 = _____ ; 5% more = _____

(44. Fill blank: $\frac{2}{3} \approx$ _____% (nearest whole)

(45. Reflection: Strategy most helpful today? _____

Answer Key

1. 50%; 0.5
2. 75%; 0.75
3. 40%; 0.4
4. 70%; 0.7
5. $\frac{1}{8}$
6. 45%; $\frac{9}{20}$
7. 54%
8. 20%; 10%
9. Half + quarter
10. $\frac{25}{100} = \frac{1}{4}$
11. 64; 6.4
12. 30
13. 21
14. 158
15. 47
16. 90
17. 27
18. 9
19. 3:4
20. $\frac{3}{8}$
21. 2:5
22. $\frac{3}{5}$
23. 2:3; $\frac{2}{3}$
24. 25
25. 20; $\frac{1}{5}$
26. $\frac{2}{5}$
27. $\frac{3}{5}$
28. $\frac{9}{10}$
29. 48%
30. 35%
31. 10; 30
32. 150; 100
33. 21; 27
34. $\frac{7}{10}$; 70%
35. 12
36. 2,000
37. 60% / moved decimal wrong
38. $\frac{3}{8}$ / total is 3+5 parts = 8

39. 12 / used $\frac{1}{2}$ not $\frac{1}{4}$

40. 60

41. 25%

42. 12

43. 90;100

44. 67%

45. Varies

Accept equivalent fraction simplifications. Approximation: $\frac{2}{3} \approx 66.6\% \rightarrow 67\%$. Reflection varies.