

**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

1. Write 76% as a decimal.
 

a. 7.6	b. 0.76	c. 0.076	d. 76
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2. Write  $\frac{6}{25}$  as a percent.
 

a. 18%	b. 4%	c. 12%	d. 24%
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3. Write 175% as a decimal.
 

a. 1.175	b. 175	c. 1.75	d. 0.175
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4. Write 88.4% as a decimal.
 

a. 884	b. 8.84	c. 88.4	d. 0.884
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5. Write this fraction as a percent.  
 $\frac{87}{50}$ 





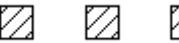

a. 184%	b. 17.4%	c. 174%	d. 137%
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6. Find 400% of 8.
 

a. 32	b. 29	c. 35	d. 27
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7. Find the percent increase from 330 to 480. Round to the nearest tenth if necessary.
 

a. 0.5%	b. 45.5%	c. 31.3%	d. 68.8%
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8. In a store that sells sporting equipment, all items are offered a discount of 20%. Find the discount of a pair of roller blades that regularly sells for \$50.
 

a. \$40	b. \$10	c. \$60	d. \$41.67
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9. Write the ratio 9:12 as a fraction.
 

a. $\frac{3}{4}$	b. $\frac{4}{3}$	c. $\frac{3}{7}$	d. $\frac{4}{7}$
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10. What is the ratio of triangles to circles?
 

  			
  			
a. 6:5	b. 5:6	c. 7:5	d. 5:7
11. Mark earned \$48. He spent \$6 and saved the remaining money. What is the ratio of amount spent to amount saved?
 

a. 1:7	b. 7:1	c. 1:8	d. 9:8
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12. Write the ratio 35:7 in simplest form.
 

a. 6:1	b. 10:2	c. 5:1	d. 28:1
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13. The ratios 40:■ and 8:7 are equivalent. Find the missing number.
 

a. 42	b. 35	c. 32	d. 55
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14. Write the ratio 15:5 with second term 1.  
 a. 10:1                      b. 3:1                      c. 11:1                      d. 5:1
15. Greg uses an overhead projector to enlarge a rectangular drawing to a width of 300 mm. The original drawing is 60 mm wide by 80 mm high. What is the height of the projected image?  
 a. 180 mm                      b. 440 mm                      c. 400 mm                      d. 225 mm
16. Laura types 240 words in 3 min. What is her unit rate of typing?  
 a. 80 wpm                      b. 210 wpm                      c. 240 wpm                      d. 720 wpm

**Short Answer**

17. Copy and complete this table.

Percent	Value
2000% of 320	
200% of 320	
20% of 320	
2% of 320	
0.2% of 320	

18. A sweater regularly priced at \$135 is on sale at 15% off. How much would you pay for the sweater, including taxes of 12%?
19. A box contains 8 red balls, 15 green balls, and 11 yellow balls. Write each ratio.  
 a) Red balls to yellow balls  
 b) Green balls to total number of balls  
 c) Yellow balls to non-yellow balls
20. Sadiq types 110 words in 2 min. What is his unit rate of typing?
21. The cost of 6 m of ribbon is \$21.  
 a) What is the cost per metre?  
 b) What would be the cost of 11 m of ribbon?  
 c) How much ribbon could you buy for \$28?

**Problem**

22. An immunization program claims that 99.75% of those vaccinated are safe from a virus. If 564 000 children were vaccinated, about how many are still at risk? Show your work.
23. A recipe calls for 12 cups of flour, 4 cups of sugar, and 8 cups of milk.  
 a) What is the ratio of dry ingredients to liquid?  
 b) What fraction of the total ingredients is flour?  
 c) What percent of the total ingredients is sugar?

**Unit 5 Practice Test  
Answer Section****MULTIPLE CHOICE**

1. ANS: B                   PTS: 1                   DIF: Easy  
REF: 5.1 Relating Fractions, Decimals, and Percents                   LOC: 8.N3  
TOP: Number           KEY: Conceptual Understanding
2. ANS: D                   PTS: 1                   DIF: Easy  
REF: 5.1 Relating Fractions, Decimals, and Percents                   LOC: 8.N3  
TOP: Number           KEY: Conceptual Understanding
3. ANS: C                   PTS: 1                   DIF: Easy               REF: 5.2 Calculating Percents  
LOC: 8.N3               TOP: Number           KEY: Conceptual Understanding
4. ANS: D                   PTS: 1                   DIF: Easy               REF: 5.2 Calculating Percents  
LOC: 8.N3               TOP: Number           KEY: Conceptual Understanding
5. ANS: C                   PTS: 1                   DIF: Moderate       REF: 5.2 Calculating Percents  
LOC: 8.N3               TOP: Number           KEY: Conceptual Understanding
6. ANS: A                   PTS: 1                   DIF: Moderate       REF: 5.2 Calculating Percents  
LOC: 8.N3               TOP: Number           KEY: Conceptual Understanding
7. ANS: B                   PTS: 1                   DIF: Moderate       REF: 5.3 Solving Percent Problems  
LOC: 8.N3               TOP: Number           KEY: Conceptual Understanding
8. ANS: B                   PTS: 1                   DIF: Easy               REF: 5.4 Sales Tax and Discount  
LOC: 8.N3               TOP: Number           KEY: Conceptual Understanding
9. ANS: A                   PTS: 1                   DIF: Easy               REF: 5.5 Exploring Ratios  
LOC: 8.N4               TOP: Number           KEY: Conceptual Understanding
10. ANS: D                   PTS: 1                   DIF: Easy               REF: 5.5 Exploring Ratios  
LOC: 8.N4               TOP: Number           KEY: Conceptual Understanding
11. ANS: A                   PTS: 1                   DIF: Moderate       REF: 5.5 Exploring Ratios  
LOC: 8.N4               TOP: Number           KEY: Conceptual Understanding
12. ANS: C                   PTS: 1                   DIF: Easy               REF: 5.6 Equivalent Ratios  
LOC: 8.N4               TOP: Number           KEY: Conceptual Understanding
13. ANS: B                   PTS: 1                   DIF: Moderate       REF: 5.6 Equivalent Ratios  
LOC: 8.N5               TOP: Number           KEY: Conceptual Understanding
14. ANS: B                   PTS: 1                   DIF: Easy               REF: 5.7 Comparing Ratios  
LOC: 8.N4               TOP: Number           KEY: Conceptual Understanding
15. ANS: C                   PTS: 1                   DIF: Moderate       REF: 5.8 Solving Ratio Problems  
LOC: 8.N5               TOP: Number           KEY: Conceptual Understanding
16. ANS: A                   PTS: 1                   DIF: Easy               REF: 5.9 Exploring Rates  
LOC: 8.N5               TOP: Number           KEY: Conceptual Understanding

**SHORT ANSWER**

17. ANS:

Percent	Value
2000% of 320	6400
200% of 320	640
20% of 320	64
2% of 320	6.4
0.2% of 320	0.64

PTS: 1                      DIF: Moderate              REF: 5.2 Calculating Percents  
 LOC: 8.N3                      TOP: Number              KEY: Conceptual Understanding

18. ANS:

The selling price of the sweater, including taxes, would be \$128.52.

PTS: 1                      DIF: Moderate              REF: 5.4 Sales Tax and Discount  
 LOC: 8.N3                      TOP: Number              KEY: Conceptual Understanding | Procedural Knowledge

19. ANS:

- a) The ratio of red balls to yellow balls is 8:11.
- b) The ratio of green balls to total number of balls is 15:34.
- c) The ratio of yellow balls to non-yellow balls is 11:23.

PTS: 1                      DIF: Moderate              REF: 5.5 Exploring Ratios  
 LOC: 8.N4                      TOP: Number              KEY: Conceptual Understanding

20. ANS:

Sadiq's unit rate of typing is 55 wpm.

PTS: 1                      DIF: Easy                      REF: 5.9 Exploring Rates  
 LOC: 8.N5                      TOP: Number              KEY: Conceptual Understanding

21. ANS:

- a) The cost of ribbon is \$3.5 per metre.
- b) The cost of 11 m of ribbon is \$38.5.
- c) I can buy 8 m of ribbon for \$28.

PTS: 1                      DIF: Moderate              REF: 5.9 Exploring Rates  
 LOC: 8.N5                      TOP: Number              KEY: Conceptual Understanding | Problem-solving Skills

## PROBLEM

22. ANS:

Methods may vary. Sample:  
 Percent of vaccinated children at risk:  
 $100\% - 99.75\% = 0.25\%$

Number of children at risk:  $\frac{0.25}{100} \times 564\,000 = 1410$

About 1410 children are still at risk of being infected by the virus.

PTS: 1                      DIF: Difficult              REF: 5.2 Calculating Percents

LOC: 8.N3            TOP: Number            KEY: Communication | Problem-solving Skills

23. ANS:

- a) The ratio of dry ingredients to liquid is 2:1.
- b) Half of the total ingredients is flour.
- c) About 17% of the total ingredients is sugar.

PTS: 1            DIF: Moderate            REF: 5.5 Exploring Ratios  
LOC: 8.N5            TOP: Number            KEY: Problem-solving Skills