NAME_____

Chapter 5 (sections 5.1-5.4)

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

____ 1. The sixth grade, which is divided into four classes, holds a fundraising competition. Which class raises the most money per student?

Class	A	B	C	D
Money raised	$450	$425	$560	$390
Students	30	25	35	30

a. Class A
b. Class B
c. Class C
d. Class D

____ 2. Find the missing value in the ratio table. Then write the equivalent ratios.

Violins	7	
Cellos	4	16

a. 19; 7 : 19 and 4 : 16
b. 28; 7 : 28 and 4 : 16
c. 28; 7 : 4 and 28 : 16
d. 19; 7 : 4 and 19 : 16

____ 3. Find the missing values in the ratio table. Then write the equivalent ratios.

Towels	16	8	
Blankets	10		30

a. 2 and 48; 16 : 10, 8 : 2, and 48 : 30
b. 2 and 36; 16 : 10, 8 : 2, and 36 : 30
c. 5 and 36; 16 : 10, 8 : 5, and 36 : 30
d. 5 and 48; 16 : 10, 8 : 5, and 48 : 30

____ 4. Two whole numbers A and B satisfy the following conditions.

$A + B = 126$
$A : B$ is equivalent to 13 : 5.

Find A and B.

a. $A = 91, B = 65$
b. $A = 91, B = 35$
c. $A = 65, B = 35$
d. $A = 13, B = 5$

____ 5. You use the punch recipe to create a larger batch that uses 10 liters of ginger ale. How many cans of pineapple juice should you use?

Punch Recipe

2 liters of ginger ale
2 cans of lemonade concentrate
1 can of pineapple juice
1 quart of sherbet

a. 1
b. 10
c. 20
d. 5

Find how far the object travels in the given amount of time.

____ 6. 26 seconds

Falls 1260 feet every 7 seconds.

a. 4,670 ft
b. 4,680 ft
c. 8,820 ft
d. 4,690 ft

____ 7. 18 hours

Moves 4 meters every 8 hours.

a. 36 m
b. 72 m
c. 10 m
d. 9 m

____ 8. 16 seconds

Rises 3 stories every 6 seconds.

a. 9 stories
b. 8 stories
c. 32 stories
d. 48 stories

Write a unit rate for the situation.

____ 9. $66 spent in 3 trips

a. $\frac{\$66}{1\ trip}$

c. $\frac{1\ trip}{\$22}$

b. $\frac{\$22}{1\ trip}$

d. $\frac{\$1}{3\ trips}$

____ 10. 234 students in 6 classes

a. $\frac{1\ class}{39\ students}$

c. $\frac{234\ students}{1\ class}$

b. $\frac{1\ student}{6\ classes}$

d. $\frac{39\ students}{1\ class}$

____ 11. $19.50 for 5 people

a. $\frac{\$3.90}{1\ person}$

c. $\frac{1\ person}{\$3.90}$

b. $\frac{\$1}{5\ people}$

d. $\frac{\$19.50}{1\ person}$

Find the speed.

____ 12. 940 miles in 47 hours

a. 940 mi/h

c. 20 mi/h

b. 44,180 mi/h

d. 24 mi/h

____ 13. 770 feet in 22 minutes

a. 35 ft/min

c. 16,940 ft/min

b. 39 ft/min

d. 770 ft/min

____ 14. A faucet leaks at a rate of 8 milliliters per second. What is the rate in pints per minute?

a. 1.01 pt/min

c. 2.03 pt/min

b. 4.05 pt/min

d. 63.2 pt/min

Name the word that matches the definition given.

____ 15. A comparison of two quantities; The ratio of a to b can be written as $a : b$.

a. ratio

c. ratio table

b. equivalent ratios

d. rate

____ 16. Two ratios that describe the same relationship

a. ratio

c. ratio table

b. equivalent ratios

d. rate

____ 17. A table used to find and organize equivalent ratios

a. ratio

c. ratio table

b. equivalent ratios

d. rate

____ 18. A ratio of two quantities using different units

a. ratio
b. equivalent ratios
c. ratio table
d. rate
e. unit rate
f. equivalent rates

____ 19. A rate that compares a quantity to one unit of another quantity

a. equivalent ratios
b. ratio
c. rate
d. unit rate

____ 20. Rates that have the same unit rate

a. equivalent rates
b. equivalent ratios
c. ratio table
d. unit rate

Numeric Response

21. The ratio of offensive players to defensive players on a football team is 4 : 3. There are 21 defensive players on the team. How many offensive players are there?

22. For a class trip, the teachers would like to have one adult for every 10 students. There are 190 students on the trip. How many adults should go on the trip?

23. An alligator can run at a speed of 13 feet per second on land. At this rate, how far can it run in 3 seconds?

24. Statistics on the school basketball team shows that the ratio of baskets made to total shots taken is 4 : 7. If the team shot a total of 56 baskets in the last game, how many baskets did they make?

Short Answer

WRITE THE UNIT RATE.

25. 250 words in 5 minutes

26. 20 meters in 4 seconds

27. 400 miles on 20 gallons

28. 12 goals in 3 hours

29. 1200 calories in 3 liters

30. 320 yards in 8 minutes

31. Decide whether the following rates are equivalent.

    12 pages in 20 minutes 20 pages in 32 minutes

32. You can buy an 8-pack of paper towels for $7.92 or a 12-pack for $11.64. Which is the better buy?

33. An American car travels 32 miles on one gallon of gas. A European car travels 12.7 kilometers on one liter of gas. Which car gets better gas mileage?

34. Runner **A** completes 12 laps around a track in 22 minutes. Runner **B** completes 8 laps in 15 minutes. Which runner had a greater average speed?

OPEN RESPONSE

35. You read 16 pages of an assignment in 20 minutes.
    a. At this rate, how many pages can you read in 45 minutes?

    b. Your friend reads 25 pages in 30 minutes. Who reads at a faster average rate?

36. You and a friend start jogging in opposite directions from the same point. You jog 57 feet every 6 seconds. Your friend jogs 68 feet every 8 seconds.
    a. How far apart are you and your friend after 5 minutes?

    b. After 25 minutes, you take a 5-minute rest, but your friend does not. How far apart are you and your friend after 55 minutes? Explain your reasoning.

Chapter 5 (sections 5.1-5.4)
Answer Section

MULTIPLE CHOICE

1. ANS: B

	Feedback
A	The student miscalculates the ratios.
B	Correct answer
C	The student picks the class that raised the most money.
D	The student picks the class with the greatest student-to-money ratio instead of the greatest money-to-student ratio.

PTS: 1 DIF: Level 2 REF: Ch 5 Standards Assessment
NAT: 6.RP.2 KEY: unit rate MSC: Application

2. ANS: C PTS: 1 DIF: Level 1 REF: Section 5.2
NAT: 6.RP.3a KEY: ratio | ratio table MSC: Knowledge

3. ANS: D PTS: 1 DIF: Level 1 REF: Section 5.2
NAT: 6.RP.3a KEY: ratio | ratio table MSC: Knowledge

4. ANS: B PTS: 1 DIF: Level 2 REF: Section 5.2
NAT: 6.RP.3a KEY: ratio | equivalent ratios | ratio table
MSC: Synthesis

5. ANS: D PTS: 1 DIF: Level 2 REF: Section 5.2
NAT: 6.RP.1 KEY: ratio | equivalent MSC: Application

6. ANS: B PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.3d KEY: rate | distance MSC: Comprehension

7. ANS: D PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.3d KEY: rate | distance MSC: Comprehension

8. ANS: B PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.3d KEY: rate | distance MSC: Comprehension

9. ANS: B PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.2 KEY: unit rate MSC: Knowledge

10. ANS: D PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.2 KEY: unit rate MSC: Knowledge

11. ANS: A PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.2 KEY: unit rate MSC: Knowledge

12. ANS: C PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.3d KEY: rate | speed MSC: Knowledge

13. ANS: A PTS: 1 DIF: Level 1 REF: Section 5.3
NAT: 6.RP.3d KEY: rate | speed MSC: Knowledge

14. ANS: A PTS: 1 DIF: Level 2 REF: Section 5.7
NAT: 6.RP.3d KEY: convert | application MSC: Application

15. ANS: A PTS: 1 DIF: Level 1 REF: Section 5.1
TOP: Vocabulary KEY: ratio MSC: Knowledge

16. ANS: B PTS: 1 DIF: Level 1 REF: Section 5.2
TOP: Vocabulary KEY: equivalent ratios MSC: Knowledge

17. ANS: C PTS: 1 DIF: Level 1 REF: Section 5.2
TOP: Vocabulary KEY: ratio table MSC: Knowledge
18. ANS: D PTS: 1 DIF: Level 1 REF: Section 5.3
TOP: Vocabulary KEY: rate MSC: Knowledge
19. ANS: D PTS: 1 DIF: Level 1 REF: Section 5.3
TOP: Vocabulary KEY: unit rate MSC: Knowledge
20. ANS: A PTS: 1 DIF: Level 1 REF: Section 5.3
TOP: Vocabulary KEY: equivalent rates MSC: Knowledge

NUMERIC RESPONSE

21. ANS:
28
Common error: The student solves the problem as if there are 21 total players on the team and concludes that there are 12 offensive players.

PTS: 1 DIF: Level 2 REF: Ch 5 Standards Assessment
NAT: 6.RP.1 KEY: ratio MSC: Application
22. ANS: 19 adults

PTS: 1 DIF: Level 2 REF: Ch 5 Test A NAT: 6.RP.3b
KEY: ratio MSC: Application
23. ANS: 39 feet

PTS: 1 DIF: Level 2 REF: Ch 5 Test A NAT: 6.RP.3b | 6.RP.2
KEY: rate MSC: Application
24. ANS: 32

PTS: 1 DIF: Level 2 REF: Section 5.2 NAT: 6.RP.3a
KEY: ratio | equivalent ratios | ratio table MSC: Comprehension

SHORT ANSWER

25. ANS:
50 words per minute

PTS: 1 DIF: Level 1 REF: Ch 5 Quiz 1 NAT: 6.RP.2
KEY: unit rate MSC: Knowledge
26. ANS:
5 meters per second

PTS: 1 DIF: Level 1 REF: Ch 5 Quiz 1 NAT: 6.RP.2
KEY: unit rate MSC: Knowledge

27. ANS:
20 miles per gallon

PTS: 1 DIF: Level 1 REF: Ch 5 Quiz 1 NAT: 6.RP.2
KEY: unit rate MSC: Knowledge

28. ANS:
4 goals per hour

PTS: 1 DIF: Level 1 REF: Ch 5 Test A NAT: 6.RP.2
KEY: unit rate MSC: Knowledge

29. ANS:
400 calories per liter

PTS: 1 DIF: Level 1 REF: Ch 5 Test A NAT: 6.RP.2
KEY: unit rate MSC: Knowledge

30. ANS:
40 yards per minute

PTS: 1 DIF: Level 1 REF: Ch 5 Test B NAT: 6.RP.2
KEY: unit rate MSC: Knowledge

31. ANS:
no

PTS: 1 DIF: Level 2 REF: Ch 5 Quiz 1 NAT: 6.RP.3a
KEY: unit rate | ratio MSC: Comprehension

32. ANS:
12-pack of paper towels

PTS: 1 DIF: Level 2 REF: Ch 5 Quiz 1 NAT: 6.RP.2 | 6.RP.3a
KEY: unit rate | ratio MSC: Comprehension

33. ANS:
American car; *Sample answer*: The European car gates about 29.98 miles per gallon, which is less than 32 miles per gallon.

PTS: 1 DIF: Level 2 REF: Ch 5 Quiz 2 NAT: 6.RP.3d
KEY: U.S. customary system | metric system | conversion factor
MSC: Application

34. ANS:
Runner A

PTS: 1 DIF: Level 2 REF: Ch 5 Test A NAT: 6.RP.3b | 6.RP.2
KEY: rate MSC: Application

35. ANS:
a. 36 pages
b. your friend

PTS: 1 DIF: Level 2 REF: Ch 5 Test B NAT: 6.RP.3b | 6.RP.3a
KEY: rate MSC: Application

36. ANS:
    a. 5,400 ft
    b. 56,550 ft; You jog for 50 minutes and your friend jogs for 55 minutes.

    PTS: 1 DIF: Level 3 REF: Section 5.3 NAT: 6.RP.3b
    KEY: rate | distance | application MSC: Application