Lesson-by-Lesson Review

If the given examples are not sufficient to review the topics covered by the questions, remind students that the page references tell them where to review that topic in their textbook.

Chapter Review

Interactive Study Guide
See pages 21–24 for:
- Vocabulary Check
- Key Concept Check
- Problem Solving
- Reflect

Lesson-by-Lesson Review

Lesson 1-1 A Plan for Problem Solving (pp. 2–5)

Use the four-step plan to solve each problem.

1. Carlos traveled 347 miles to go to his cousins' house. It took him about 5.5 hours to drive there. Estimate his average speed in miles per hour. **about 63 mph**
2. Julie walked 3 miles each day in March and April. How many miles did she walk altogether over this time? **183 mi**
3. A restaurant is offering selected three-course meals for one price. Customers can choose from 2 appetizers, 3 main courses, and 2 desserts. How many different dinner combinations are available? **12 dinner combinations**
4. There are 140 students going on a field trip. A maximum of 22 students can fit on each bus. How many buses will be needed for the field trip? **7 buses**

Example 1

Dana is tying 18 bows onto gift baskets. Each bow uses 4 feet of ribbon. How many feet of ribbon does Dana need to make all the bows?

Understand You know the number of bows and the length of ribbon for each bow. You need to find the total ribbon for all the bows.

Plan Multiply the number of bows by the length of ribbon for each bow.

Solve $18 \times 4 = 72$

So, Dana needs 72 feet of ribbon in all.

Check Estimate. $20 \times 4 = 80$.

Since $80 \approx 72$, the answer is reasonable. ✓

Lesson 1-2 Words and Expressions (pp. 6–10)

Write a numerical expression for each verbal phrase.

5. the total number of students, if there are nineteen in one class and thirteen in another **19 + 13**
6. the number of soccer players on each of five teams, if there are a total of thirty-five players **35 ÷ 5**

Evaluate each expression.

7. $6(7) + 3$ **45**
8. $4[(12 - 4) + 2]$ **40**
9. $3[6 + (6 - 2)]$ **30**
10. $9(2) + 8(7)$ **74**
11. $10(4 \div 2)$ **20**
12. $4[25 \div (2 + 3)]$ **20**
13. **Financial Literacy** Yu, Collin, and Sydney spent $284 to make bracelets. They sold the bracelets for $674. If they split the profits evenly, how much did each person earn? **$130**

Example 2

Write the phrase *the total number of postcards, if eight people each buy five* as a numerical expression.

Phrase the product of 8 and 5

Expression $8 \cdot 5$

Example 3

Evaluate the expression $3[(5 - 4) + 6]$.

$3[(5 - 4) + 6] = 3(1 + 6)$ Evaluate $(5 - 4)$.

$= 3(7)$ $3(7)$ means 3×7.

$= 21$ Multiply 3 and 7.

Lesson 1-3 Variables and Expressions (pp. 13–18)

14. Translate into an algebraic expression *the quotient of the number of points and three.* $n \div 3$

Evaluate each expression if $a = 4$, $b = 8$, and $c = 11$.

15. $3a + b$ **20**

16. $16 - c$ **5**

17. $3a + 4b - c$ **33**

18. $\frac{3b}{a} + ac$ **50**

19. $12 + 3a + b$ **32**

20. $6(a + b + c)$ **138**

21. $3a - c$ **1**

22. $2ab + ac$ **108**

23. There are 36 inches in a yard. Write an expression to find the number of yards in x inches. $\frac{x}{36}$

Example 4

Evaluate $x - 5 + 2y$ if $x = 6$ and $y = 4$.

$x - 5 + 2y = 6 - 5 + 2(4)$ Replace x with 6 and y with 4.

$= 6 - 5 + 8$ Multiply 2 and 4.

$= 1 + 8$ Subtract 5 from 6.

$= 9$ Add 1 and 8.

Lesson 1-4 Properties of Numbers (pp. 19–24)

Name the property shown by each statement.

24. $12 \times 0 = 0$ **Multiplicative Property of Zero**

25. $(3 \cdot 5) \cdot 2 = 3 \cdot (5 \cdot 2)$ **Associative (×)**

Simplify each expression.

26. $3 \cdot (2 \cdot x)$ **$6x$**

27. $(5 + v) + 7$ **$12 + v$**

28. $10 \cdot (4 \cdot x)$ **$40x$**

29. $(2 + 3) + (4 + x)$ **$9 + x$**

30. $(7 + y) + 13$ **$y + 20$**

31. $1 \cdot (25 \cdot x)$ **$25x$**

32. Gloria has 58 dolls. If she does not add any dolls to her collection, write a number sentence that represents the situation. Then name the property that is illustrated. **$58 + 0 = 58$; Additive Identity**

Example 5

Simplify $(4 + x) + 6$.

$(4 + x) + 6 = (x + 4) + 6$ Commutative (+)

$= x + (4 + 6)$ Associative (+)

$= x + 10$ Simplify.

Lesson 1-5 Problem-Solving Strategies (pp. 26–30)

Use a strategy to solve each problem.

33. Mia has 14 coins in her pocket that total $1.10. What are the coins in her pocket?

34. Yanira is 3 years older than Tim and twice as old as Hannah. Tim is 2 years older than Hannah. How old are Yanira, Tim, and Hannah? **Hannah 5, Tim 7, Yanira 10**

35. The sum of two consecutive even integers is 150. What are the two integers? **74 and 76**

33. 2 quarters, 4 dimes, 3 nickels, 5 pennies; or 4 quarters, 10 pennies

Example 6

Tina bought twice as many pencils as Frank bought at the school store, and Joel bought 5 more pencils than Frank did. Altogether they bought 17 pencils. How many pencils did Frank buy?

Make a guess. Check your guess and revise.

Frank	Tina	Joel	Total	
2	$2(2) = 4$	$2 + 5 = 7$	13	too low
3	$2(3) = 6$	$3 + 5 = 8$	17	✓

Frank bought 3 pencils.

Additional Answers

36.

x	2	2	2
y	3	6	5

D = {2}; R = {3, 5, 6}

37.

x	1	2	3	4
y	4	8	12	16

D = {1, 2, 3, 4}; R = {4, 8, 12, 16}

38.

x	3	4	5
y	6	12	18

D = {3, 4, 5}; R = {6, 12, 18}

39.

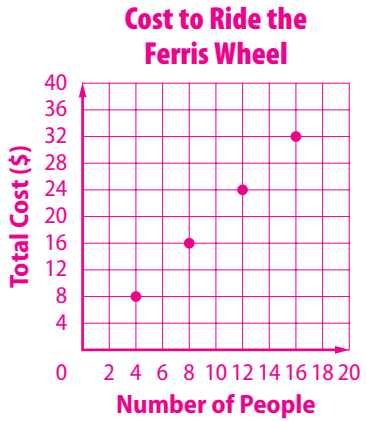
x	1	2	3	4
y	1	4	9	16

D = {1, 2, 3, 4}; R = {1, 4, 9, 16}

40a.

x	4	8	12	16
y	8	16	24	32

40b.



The points appear to lie in a line.

Lesson 1-6 Ordered Pairs and Relations (pp. 31–36)

Express each relation as a table. Then determine the domain and range.

36. {(2, 3), (2, 6), (2, 5)} **36–40. See margin.**

37. {(1, 4), (2, 8), (3, 12), (4, 16)}

38. {(3, 6), (4, 12), (5, 18)}

39. {(1, 1), (2, 4), (3, 9), (4, 16)}

40. It costs $2 per person to ride the Ferris wheel.

a. Make a table of ordered pairs in which the *x*-coordinate represents the number of people and the *y*-coordinate represents the cost for 4, 8, 12, and 16 people.

b. Graph the ordered pairs and then describe the graph.

Example 7

Express the relation {(2, 1), (5, 6), (2, 7), (6, 1)} as a table. Then determine the domain and range.

x	2	5	2	6
y	1	6	7	1

The domain is {2, 5, 6}, and the range is {1, 6, 7}.

Lesson 1-7 Word, Equations, Tables, and Graphs (pp. 37–41)

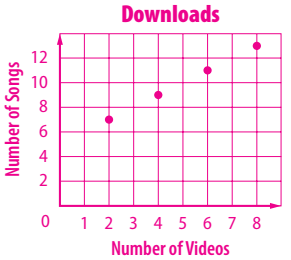
41. Shanna downloaded 5 more songs than videos.

a. Write an equation that can be used to find the number of songs downloaded given the number of videos downloaded. $s = v + 5$

b. Complete the table for the number of songs downloaded when the number of videos downloaded is 2, 4, 6, and 8.

Number of Videos	Number of Songs
v	*s*
2	7
4	9
6	11
8	13

c. Graph the ordered pairs for the relation.



Example 8

There are 3 apples for each horse.

a. Write an equation to find the number of apples needed for any number of horses.

Let *h* represent the number of horses and let *a* represent the number of apples. The equation is $a = 3h$.

b. Make a table for 3, 5, 7, and 11 horses.

Number of Horses	Number of Apples
h	*a*
3	9
5	15
7	21
11	33

c. Graph the ordered pairs for the relation.