Chapter 6 BLM Answers

BLM 6–1 Chapter 6 Math Link Introduction

1. $\frac{3}{10}$ **2. a)** 10 **b)** $\frac{1+2}{10} = \frac{3}{10}$

3. $\frac{4}{21}$ **4. a)** $\frac{5}{6}$ **b)** $1 - \frac{5}{6} = \frac{1}{6}$

BLM 6–2 Chapter 6 Get Ready

1. a) $\frac{1}{3}$ **b)** $\frac{5}{6}$ **c)** $\frac{7}{10}$ **d)** $\frac{2}{3}$

2. a) $\frac{1}{2}$ **b)** $\frac{2}{3}$ **c)** $\frac{1}{4}$ **d)** $\frac{2}{15}$

3. a) $3\frac{4}{5}$ **b)** 6 **c)** $1\frac{1}{5}$ **d)** $2\frac{2}{3}$

e) $8\frac{2}{3}$ **f)** $5\frac{3}{7}$ **g)** $3\frac{1}{2}$ **h)** $\frac{1}{3}$

4. a) $3\frac{5}{6}$ **b)** $4\frac{3}{4}$ **c)** $4\frac{3}{8}$ **d)** $7\frac{3}{10}$

5. a) $2\frac{1}{6}$ **b)** $2\frac{1}{4}$ **c)** $\frac{7}{8}$ **d)** $1\frac{9}{10}$

6. a) 1 **b)** 25 **c)** 0 **d)** 4

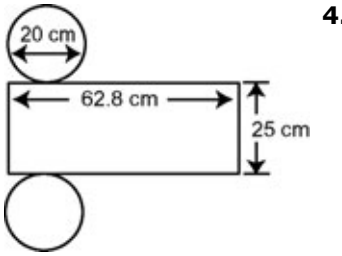
BLM 6–3 Chapter 6 Warm-Up

Section 6.1

1. Answers will vary. Example:
Area of circles $\approx 100 \times 3 \times 2 \approx 600$ cm^2
Area of rectangle $\approx 20 \times 3 \times 25 \approx 1500$ cm^2
Surface area ≈ 2100 cm^2

2. 2198 cm^2

3.



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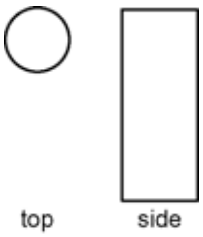


5. Answers will vary. Make sure that the three views are labelled.

6. 12 m **7.** 12 m^2 **8.** $\frac{1}{3}$ **9.** 125%, $1\frac{1}{4}$

10. 0.88, 88%

Section 6.2

1. $3 \times \frac{5}{6} = \frac{15}{6} = 2\frac{3}{6} = 2\frac{1}{2}$

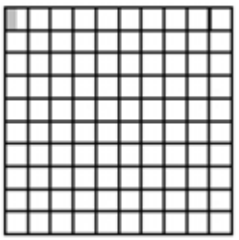
2. $2 \times \frac{2}{3} = \frac{4}{3} = 1\frac{1}{3}$ **3.** $\frac{12}{8} = 1\frac{4}{8} = 1\frac{1}{2}$

4. $\frac{7}{2} = 3\frac{1}{2}$ **5.** a cube **6.** \$270

7. Answers will vary. Examples:
- Divide \$300 by 10 and then subtract the answer from \$300.
- Multiply \$300 by 0.9: 9 × 3 = 27 and add a zero.

8. 62.5%

9.



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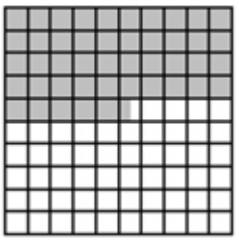


Section 6.3

1. $\frac{1}{18}$ **2.** $\frac{3}{8}$ **3.** $\frac{2}{12} = \frac{1}{6}$ **4.** $\frac{10}{5} = 2$

5. $\frac{18}{9} = 2$

6. Answers will vary. Example: Use patterning. It takes 9 ninths to make 1 whole. 18 is 2 × 9. Therefore, the answer is 2.

7. 2 **8.** 3 **9.** 7.25%; 0.0725 **10.** 1.053

Section 6.4

1. Estimates may vary. Example: 0; $\frac{6}{20} = \frac{3}{10}$

2. Estimates may vary. Example: 0; $\frac{1}{18}$

3. Estimates may vary. Example: $\frac{1}{2}$; $\frac{5}{14}$

4. $\frac{2}{28} = \frac{1}{14}$ **5.** $\frac{1}{36}$ **6.** \$30 **7.** \$6

8. \$1500 **9.** 9 **10.** 121

Section 6.5

1. a) $3\frac{3}{5}$ **b)** $7\frac{2}{3}$ **2. a)** $\frac{24}{7}$ **b)** $\frac{14}{11}$

3. $\frac{60}{14} = 4\frac{4}{14} = 4\frac{2}{7}$ **4.** $\frac{26}{12} = 2\frac{2}{12} = 2\frac{1}{6}$

5. $\frac{169}{18} = 9\frac{7}{18}$

6. $8^2 = 64$ **7.** $10^2 = 100$
$9^2 = 81$ $11^2 = 121$
$\sqrt{74} \approx 8.6$ $\sqrt{114} \approx 10.7$

8. $6^2 = 36$ **9.** 144 **10.** 169
$7^2 = 49$
$\sqrt{38} \approx 6.2$

Section 6.6

1. $\frac{8}{9}$ **2.** $\frac{1}{10}$ **3.** $\frac{45}{4} = 11\frac{1}{4}$ **4.** $\frac{65}{44} = 1\frac{21}{44}$

5. $\frac{35}{14} = 2\frac{1}{2}$ **6.** \$3.99 **7.** 8 : 10 : 6

8. 4 : 5 : 3 **9.** $\frac{8}{6} = 1\frac{1}{3}$ **10.** $\frac{6}{10} = \frac{3}{5}$

BLM 6–4 Chapter 6 Problems of the Week

1. a) Since the product for the first apple is $60\frac{11}{12}$ g, and the product for the second apple is $51\frac{2}{3}$ g, the first apple will have the largest bruise.

b) Answers will vary. Example: Other factors may be what kind of surface they fall on (rocks, grass, etc.).

2. a) $6\frac{1}{4}$ cm **b)** Team 1 card: $7\frac{1}{3}$ cm^2, Team 2 card: $6\frac{1}{3}$ cm^2, Team 3 card: $11\frac{1}{3}$ cm^2. Team 3 card exceeds specifications.

3. 18 m **4.** The pool is $\frac{7}{8}$ full. $\frac{1}{8}$ of the pool still needs to be filled. **5. a)** 24 **b)** 6

6. The 10 cm × 12 cm and the 8 cm × 9.6 cm picture. Both of these ratios, when compared as a fraction, are equal to 0.83.

7. Dirk's mother is correct. He drank $\frac{21}{40}$ L of lemonade.

8. $\frac{7}{10}$ of the pool is pumped; $\frac{3}{10}$ still needs to be pumped; $1\frac{1}{2}$ h to empty the pool

BLM 6–6 Section 6.1 Extra Practice

1. a) $4 \times \frac{1}{3}$ **b)** $3 \times \frac{1}{2}$ **c)** $5 \times \frac{1}{6}$

2. a) $3 \times \frac{2}{5}$ **b)** $2 \times \frac{5}{6}$ **c)** $3 \times \frac{1}{8}$

3. a) $\frac{4}{3}$, and an appropriately marked number line

b) $\frac{9}{4}$, and an appropriately marked number line

4. a) $\frac{5}{3}$ **b)** $\frac{15}{8}$ **c)** $\frac{18}{10} = \frac{9}{5}$

5. a) 6 **b)** 8 **c)** 21 **6.** 21 **7.** 25

BLM 6–7 Section 6.1 Math Link

1. $\frac{1}{4}$ **2. a)** 25 **b)** 75 **c)** 4 **d)** Answers may vary. Example: 3 × 25

3. a) 2; 6 **b)** 4; 12 **c)** 6; 18 **d)** 5; 15

4. 5 **5.** 15

BLM 6–10 Section 6.2 Extra Practice

1. a) $\frac{1}{8}$, and correctly marked fraction strip

b) $\frac{1}{10}$, and correctly marked fraction strip

c) $\frac{2}{9}$, and correctly marked fraction strip

d) $\frac{3}{12}$ or $\frac{1}{4}$, and correctly marked fraction strip

2. a) $\frac{1}{6}$ **b)** $\frac{1}{12}$ **c)** $\frac{1}{9}$ **d)** $\frac{1}{4}$

3. a) $\frac{1}{4} \div 3 = \frac{1}{12}$

b) They would each get $\frac{1}{12}$ of the cake.

4. a) $\frac{5}{6} \div 4 = \frac{5}{24}$ **b)** $\frac{5}{24}$ of the grade 8 students would be in each of the groups.

BLM 6–11 Section 6.2 Math Link

1. $\frac{1}{6}$, and appropriately drawn pattern blocks

2. $\frac{1}{8}$, and appropriately drawn fraction strips

3. $\frac{1}{10}$, and appropriately drawn number line

4. a) $\frac{1}{10} \div 2$ **b)** $\frac{1}{20}$

BLM 6–12 Section 6.3 Extra Practice

1. a) halves, thirds, *or* thirds, halves
b) quarters, thirds, *or* thirds, quarters
c) less **d)** 0, $\frac{1}{2}$, 1 **e)** numerator, numerator, denominator, denominator

2. a) $\frac{1}{9}$, and a correctly marked rectangle

b) $\frac{2}{12}$, and a correctly marked rectangle

3. a) $\frac{1}{2} \times 1 = \frac{1}{2}$; $\frac{1}{2}$ **b)** $\frac{1}{2} \times 1 = \frac{1}{2}$; $\frac{4}{15}$

c) $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$; $\frac{5}{32}$

4. $\frac{1}{8}$ of Mr. Saari's is on a "rep" team.

BLM 6–13 Section 6.3 Math Link

1. $\frac{1}{50}$ **2.** $\frac{1}{50}$ **3.** Rule: Multiply the numerators and multiply the denominators; $\frac{1}{50}$.

4. Answers will vary. Example: I prefer using the rule because it is just basic multiplication.

BLM 6–14 Section 6.4 Extra Practice

1. a) $2 \times \frac{2}{3} = \frac{4}{3}$; $3 \times \frac{1}{2} = \frac{3}{2}$; $\frac{2}{3} \times \frac{1}{2} = \frac{2}{6}$

b) $6 + 1\frac{1}{3} + 1\frac{1}{2} + \frac{2}{6}$

$= 8 + \frac{2}{6} + \frac{3}{6} + \frac{2}{6}$

$= 8\frac{7}{6} = 9\frac{1}{6}$

c) Estimates may vary. Example: 3 × 4 = 12

d) $\frac{5}{2}$; $\frac{11}{3}$; $\frac{5}{2} \times \frac{11}{3} = \frac{55}{6} = 9\frac{1}{6}$

2. a) $\frac{3}{4} = 3\frac{3}{4}$

b) $\frac{2}{2} + \frac{2}{2} + \frac{2}{2} + \frac{2}{2} + \frac{1}{2} = 4\frac{1}{2}$

c) $\frac{12}{12} + \frac{12}{12} + \frac{2}{12} = 2\frac{2}{12} = 2\frac{1}{6}$

d) $\frac{6}{6} + \frac{6}{6} + \frac{6}{6} + \frac{2}{6} = 3\frac{2}{6} = 3\frac{1}{3}$

3. a) $\frac{4}{3} \times \frac{4}{3}$; $\frac{16}{3}$; $5\frac{1}{3}$

b) $\frac{7}{3} \times \frac{3}{2}$; $\frac{21}{6}$; $3\frac{3}{6} = 3\frac{1}{2}$

c) $\frac{7}{4} \times \frac{7}{5}$; $\frac{49}{20}$; $2\frac{9}{20}$ **d)** $\frac{11}{6} \times \frac{5}{2}$; $\frac{55}{12}$; $4\frac{7}{12}$

4. $16\frac{1}{4}$ h

BLM 6–15 Section 6.4 Math Link

1. $1\frac{7}{8}$ **2.** Express them as improper fractions and then multiply the numerators and multiply the denominators. $\frac{3}{4} \times \frac{5}{2} = \frac{15}{8} = 1\frac{7}{8}$

3. Answers will vary. Example: I like diagrams better for simple equations. **4.** $\frac{3}{20}$

BLM 6–17 Section 6.5 Extra Practice

1. a) $\frac{1}{2}$; $1\frac{1}{2}$; $1\frac{1}{2} \div \frac{1}{2} = 3$

b) $\frac{2}{3}$; $2\frac{1}{3}$; $2\frac{1}{3} \div \frac{2}{3} = 3\frac{1}{2}$

2. a) 6 **b)** $1\frac{1}{4}$ **c)** $3\frac{1}{3}$ **d)** $3\frac{1}{12}$

3. a) 3 **b)** $\frac{6}{5}$ *or* $1\frac{1}{5}$ **c)** $\frac{3}{7}$ **d)** $\frac{5}{22}$

4. a) $\frac{9}{10}$ **b)** $1\frac{1}{2}$ **c)** $5\frac{1}{4}$ **d)** $4\frac{4}{7}$

5. a) $1\frac{1}{2} \div \frac{3}{4}$; $2 \div 1 = 2$. There are two portions.

b) $3\frac{1}{3} \div 10$; $3 \div 10 = \frac{3}{10}$. Each will get $\frac{1}{3}$.

BLM 6–18 Section 6.5 Math Link

1. Answers will vary. Example: Change them to improper fractions, write them with a common denominator, and divide the numerators.

2. $1\frac{1}{2}$ **3.** $70 \div 2\frac{4}{5}$; 25 cm

BLM 6–19 Section 6.6 Extra Practice

1. brackets, multiplication/division, addition/subtraction

2. a) F; $5 - 3 \times \frac{1}{2} = 3\frac{1}{2}$

b) F; $2\frac{7}{8} - 2 \times \frac{3}{4} = 1\frac{3}{8}$ **c)** T

3. a) $\frac{5}{48}$ **b)** $\frac{1}{2}$ **c)** $2\frac{11}{30}$

4. a) $200 \times \frac{1}{10} + (275 - 200) \times \frac{1}{5}$; 35. The total discount was $35.

b) $20 \div \frac{5}{7} + 18 \div \frac{2}{3}$; 55. There were 55 students in total.

BLM 6–20 Section 6.6 Math Link

1. Answers are in italics. For the last two lines, answers will vary. Samples are provided.

Clue	Suggested Operation
$\frac{3}{4}$ of 20	multiplication
equally shared	division
earned time-and-a-half	multiplication
fraction of	division
part of	division
$\frac{3}{4}$ as many as	multiplication
$2\frac{1}{2}$ times as long	multiplication
quotient	division
product	multiplication

2. a) Answers will vary. Example: A car can travel 70 km on $\frac{1}{2}$ of a tank of gas. How far can the car travel on 3 tanks of gas?

b) Estimates may vary. Example:

$\frac{1}{2}$ a tank = 70 km

1 tank = 140 m
3 tanks = 420 km

c) How many half tanks are in 3 tanks?

$3 \div \frac{1}{2} = 6$

How far can you go on that many half tanks?
$6 \times 72 = 420$ km

d) Division, to find the number of half tanks in 3 tanks. Multiplication, to calculate the distance travelled. **e)** Answers will vary.

3. a) Larger. Estimates will vary. Example: 180

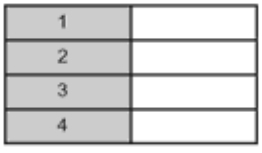
b) division **c)** $50 \div \frac{1}{4} = 200$

d) Answers will vary.

BLM 6–21 Chapter 6 Test

1. C **2.** B **3.** B **4.** D **5.** D

6. Answers may vary. Example:



$\frac{1}{8}$ of the rectangle goes into $\frac{1}{2}$ of the rectangle 4 times.

7. a) $2\frac{2}{3}$ **b)** 5 **c)** $4\frac{2}{7}$ **d)** $1\frac{5}{6}$ **e)** $\frac{6}{11}$ **f)** $\frac{3}{4}$

8. $\frac{1}{3}$ **9.** 24 **10.** 300 km

11. 24 students **12. a)** $4\frac{1}{8}$ km **b)** 33 km