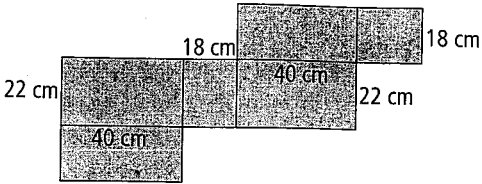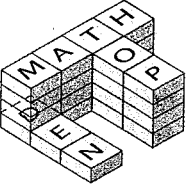**9.** Answer may vary. Example:

10. a) and **b)** Both nets form the same triangular prism.
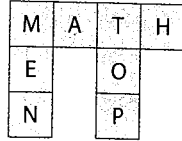
11. a) Answers may vary.
Example:

b) Answers may vary.
Example:

M	A	T	H
E		O	
N		P	

12. a) yellow **b)** green **c)** brown

13. There are 11 possible nets:
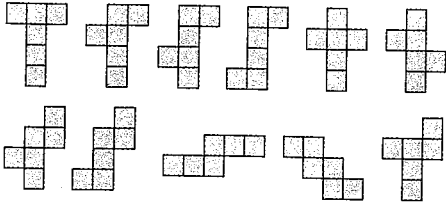
5.3 Surface Area of a Prism, pages 180–181

3. 819.5 cm²

4. 397.0 cm²

5. 7.7 m²

6. 106.7 cm²

7. 94 mm²

8. a) 4 **b)** 6.36 m²

9. Answers may vary. Example: 115 700 mm² (book cover of length 26 cm, width 21 cm, and thickness 2.5 cm)
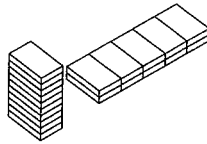
10. 9.96 m²

11. 70 m²

12. The triangular prism would require less wrapping paper because its surface area of 770 cm² is less than the surface area of 1000 cm² of the rectangular prism.

13. 266 pans

14. a) 9 cm × 13.0 cm × 8.5 cm
b) Yes, these two sets of dimensions are possible: 9 cm × 6.5 cm × 17 cm and 9 cm × 32.5 cm × 3.4 cm.


15. a) 1 : 4 **b)** The ratio of the old surface area to the new surface area is 1 : 9. Yes, there is a pattern. The surface area is increased by a factor equal to the square of the multiplier of the edge length.

16. a) one 4-L can and two 1-L cans of wall paint plus one 4-L can of ceiling paint **b)** Answer may vary. Example: The paint costs $73.88. At a tax rate of 12% (GST and PST), the total cost would be $82.75.

5.4 Surface Area of a Cylinder, pages 186–187

3. Answers may vary. Example:

a) **b)**
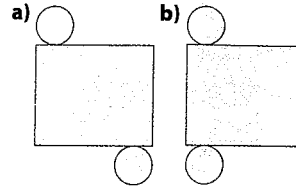
4. a) 736.3 cm² **b)** 2009.6 cm²

5. a) 135.4 cm² **b)** 0.2 m²

6. a) 88.31 cm² **b)** 149.15 cm²

7. Answers may vary. Example: Use a formula. It is quicker, and you are less likely to miss part of the calculation.

8. 5604.9 cm²

9. The 85-cm long container required more plastic. Its surface area of 3125.87 cm² is greater than the surface area of 2758.49 cm² of the other container.

10. 345.4 cm²

11. 538.51 cm²

12. 3228.31 mm²

13. a) length: 251.2 cm; width: 21 cm **b)** 5275.2 cm²

Chapter Review, pages 188–189

1. net
2. surface area
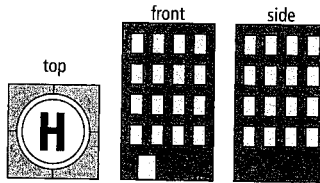**3.** right prism
4. cylinder
5. triangular prism
6. rectangular prism

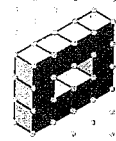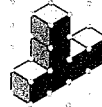**7. a)** Answers may vary. Example:

b) Answers may vary. Example:

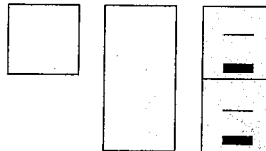**8. a)** Answers may vary.
Example:

b) Answers may vary.
Example:

9. a) The new front view will be the same as the original side view. The new side view will be the same as the original front view. The new top view will be a 90° turn of the original top view.
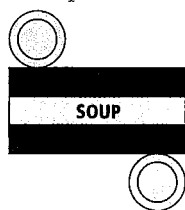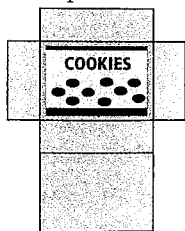
b)

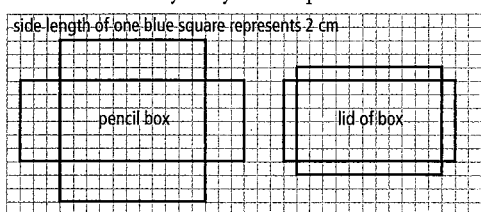**10. a)** cylinder **b)** triangular prism **c)** rectangular prism
11. a) Answers may vary. **b)** Answers may vary.
Example:

Example:

12. Answers may vary. Example:

13. a) 864 cm² **b)** 10.5 m²
14. 3648 mm²
15. a) 144 cm² **b)** 3865 cm²
16. 5309 cm²
17. 125.6 m²
18. 92.9 cm²
19. 19 939 cm²

Chapter 6

6.1 Multiplying a Fraction and a Whole Number, pages 202–203

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

5. a) $2 \times \frac{5}{4} = \frac{10}{4}$ **b)** $4 \times \frac{1}{6} = \frac{4}{6}$

6. a) 2;

b) $\frac{21}{10}$;

c) $\frac{10}{3}$;

d) $\frac{9}{8}$;

7. a) $\frac{3}{8}$ **b)** $\frac{6}{4}$ **c)** $\frac{12}{5}$ **d)** $\frac{8}{3}$

8. $4 \times \frac{1}{2} = 2$; The width of the flag is 2 m.

9. $12 \times \frac{3}{4} = 9$; There are nine people on the minibus.

10. a) $\frac{1}{6}$ **b)** $6 \times \frac{1}{6} = 1$; The area of each face is 1 cm².

11. $12 \times \frac{5}{6} = 10$; Asma's car uses only 10 L of gasoline per 100 km.

12. $10\,000\,000 \times \frac{1}{5} = 2\,000\,000$; Nunavut is about 2 000 000 km².

13. a) 5; Example: Divide the previous product by two to continue the pattern. **b)** Answer may vary.

Example: $9 \times 9 = 81$, $3 \times 9 = 27$, $1 \times 9 = 9$, $\frac{1}{3} \times 9 = 3$

14. Answers may vary. Example: Jane spends $\frac{1}{4}$ of her allowance on books. If Jane's allowance is $8 each week, how much does she spend on books? Answer: $\frac{1}{4} \times 8 = 2$; She spends $2 each week on books.

15. $30 \times \frac{4}{5} = 24$; Twenty-four students have brown eyes.

16. $15 \times \frac{1}{5} = 3$; The shortest side measures 3 cm.
$15 - 3 = 12$, $12 \div 2 = 6$; The other two sides measure 6 cm each.

17. 341 cm

6.2 Dividing a Fraction by a Whole Number, pages 208–209

4. a) $\frac{1}{4} \div 2 = \frac{1}{8}$;

b) $\frac{1}{3} \div 3 = \frac{1}{9}$;

c) $\frac{1}{5} \div 2 = \frac{1}{10}$;

d) $\frac{5}{6} \div 4 = \frac{5}{24}$;

5. a) $\frac{3}{10}$ **b)** $\frac{1}{15}$ **c)** $\frac{1}{8}$ **d)** $\frac{1}{9}$

6. a) A serving of dhopa requires $\frac{1}{4}$ of a coconut.

b) A serving of molee curry requires $\frac{1}{8}$ of a coconut.

7. Each student gets $\frac{1}{6}$ of a full pitcher.

8. Each of these provinces represents $\frac{1}{15}$ of the area of Canada.

9. a) She averages $\frac{1}{12}$ of an hour per lap. **b)** 5 min

10. He averages $\frac{1}{15}$ of a tank per round trip.

11. Vancouver has frost on about $\frac{3}{20}$ of the days in a year.

12. It takes $\frac{2}{5}$ of a roll to wrap three packages.