The American School of Marrakesh

Grade 6

Grade 6 Summer Preparation Packet

Summer 2016

Grade 6 Summer Preparation Packet

This summer packet contains exciting math problems designed to ensure your readiness for Grade 6. The topics covered in this packet are concepts that should have been mastered in lower school. Mathematics is based on building upon foundations learned in previous years. Having a solid foundation of skills makes it easier to learn new concepts, and therefore lead you to more success and deeper understanding of the concepts covered. Your success next year begins now!

Show all work that leads you to each solution. Use separate paper, if necessary. You may get help with this packet from friends, a tutor, the internet, or a teacher, but please understand that "help" means having someone explain how to solve the problem, not just simply supplying the answer or copying the work someone else did. YOU are responsible for understanding the material contained in this packet, and for being able to employ the skills necessary to solve each problem.

All work should be completed and ready to turn in on the **first day of school**. This packet will count as part of your **first term grade** and will be graded on completeness and correctness. You will not be given credit for problems in this packet if no work is shown. **A Summer Math Packet test** will be given at the end of the first full week of school.

Do a little of your Summer Math Packet each week. You are not expected to do all of it on the first day or the last week. Your Summer Math Packet will be used to analyze your strengths and weaknesses, and assist your teacher in helping you grow mathematically throughout the year.

Honor and integrity are at the heart of all students at The American School of Marrakesh. True Warriors never cheat. You are only hurting yourself by attempting to copy someone else's work. This packet is to help you be ready for Grade 6, and help your teachers know what you can do.

Thank you and have a great summer!

If you are receiving this packet, please provide the following information to me through email to corense@asm.ac.ma

Name: _____
Phone: _____
Email: _____

Emailing this information acknowledges receipt of the packet, and an understanding that completion of this prerequisite packet is a requirement for the Grade 6 course. The packet is **due on the first day of class**.

NAME _____ DATE _____ PERIOD _____

3-5 Practice: Skills

Adding and Subtracting Decimals

Add or subtract.

1. $0.581 + 11$

2. $4.78 + 6$

3. $9.6 + 5.2$

4. $7.8 - 4.3$

5. $16.79 - 0.51$

6. $1.02 - 0.38$

7. $20.1 + 3.2$

8. $0.86 + 0.38$

9. $3.84 + 2.69$

10. $4.17 - 2.58$

11. $47.06 - 38.27$

12. $96.293 - 68.501$

Add or subtract.

13. $8.5 + 0.5$

14. $8.3 + 7.9$

15. $5.21 + 4 + 0.2$

16. $3.4 + 3.2 - 6$

17. $0.485 + 9.32$

18. $362 - 145.9$

19. $19.4 - 7.86$

20. $4 + 8.5 + 2$

21. $8.3 + 5.41 + 3.2$

22. ALGEBRA Evaluate $b - a$ if $a = 113.04$ and $b = 241.931$.

23. ALGEBRA Evaluate $x + y$ if $x = 2.057$ and $y = 16.3$.

Find the value of each expression.

24. $3.4 \times 2 - 6$

25. $16.9 - 2^2$

26. $7 + 2.3 - 5.8$

NAME _____ DATE _____ PERIOD _____

4-2 Practice: Skills

Multiplying Decimals

Multiply.

1. 0.3×0.5

2. 1.2×2.1

3. 2.5×6.7

4. 0.4×8.3

5. 2.3×1.21

6. 0.6×0.91

7. 6.5×0.04

8. 8.54×3.27

9. 5.02×1.07

10. 0.003×2.9

11. 0.93×6.8

12. 7.1×0.004

13. 3.007×6.1

14. 2.52×0.15

15. 2.6×5.46

16. 16.25×1.3

17. 3.5×24.09

18. 0.025×17.1

19. 11.04×6.18

20. 14.83×16.7

21. 27.1×10.105

Evaluate each expression if $x = 2.1$, $y = 0.031$, and $z = 3.05$.

22. $xy + z$

23. $y + xz$

24. $x \times 13.55 - y$

Lesson 4–2

NAME _____ DATE _____ PERIOD _____

6-3

Practice: Skills

Adding and Subtracting Fractions with Like Denominators

Add or subtract. Write in simplest form.

1. $\frac{2}{9} + \frac{4}{9}$

2. $\frac{2}{5} + \frac{4}{5}$

3. $\frac{2}{3} - \frac{1}{3}$

4. $\frac{3}{4} + \frac{1}{4}$

5. $\frac{7}{8} - \frac{3}{8}$

6. $\frac{9}{12} + \frac{3}{12}$

7. $\frac{5}{6} - \frac{1}{6}$

8. $\frac{1}{6} + \frac{5}{6}$

9. $\frac{11}{12} - \frac{7}{12}$

10. $\frac{7}{8} + \frac{3}{8}$

11. $\frac{9}{10} - \frac{4}{10}$

12. $\frac{3}{8} + \frac{1}{8}$

13. $\frac{10}{11} - \frac{2}{11}$

14. $\frac{7}{9} + \frac{2}{9}$

15. $\frac{5}{6} + \frac{4}{6}$

16. $\frac{3}{10} - \frac{1}{10}$

17. $\frac{3}{10} + \frac{3}{10}$

18. $\frac{5}{6} + \frac{3}{6}$

19. $\frac{5}{8} - \frac{3}{8}$

20. $\frac{5}{7} - \frac{2}{7}$

21. $\frac{6}{7} + \frac{5}{7}$

22. How much is $\frac{2}{9}$ pound plus $\frac{1}{9}$ pound?

23. How much longer is $\frac{3}{8}$ foot than $\frac{1}{8}$ foot?

24. How much more than $\frac{1}{4}$ cup is $\frac{3}{4}$ cup?

25. What is the sum of $\frac{2}{11}$, $\frac{7}{11}$, and $\frac{1}{11}$?

NAME _____ DATE _____ PERIOD _____

6-4

Practice: Skills

Adding and Subtracting Fractions with Unlike Denominators

Add or subtract. Write in simplest form.

1. $\begin{array}{r} \frac{2}{3} \\ +\frac{5}{6} \\ \hline \end{array}$

2. $\begin{array}{r} \frac{5}{6} \\ +\frac{3}{4} \\ \hline \end{array}$

3. $\begin{array}{r} \frac{2}{3} \\ -\frac{1}{6} \\ \hline \end{array}$

4. $\begin{array}{r} \frac{1}{2} \\ +\frac{7}{8} \\ \hline \end{array}$

5. $\begin{array}{r} \frac{4}{7} \\ -\frac{1}{2} \\ \hline \end{array}$

6. $\begin{array}{r} \frac{1}{6} \\ -\frac{1}{12} \\ \hline \end{array}$

7. $\frac{5}{8} - \frac{1}{4}$

8. $\frac{1}{3} + \frac{5}{7}$

9. $\frac{1}{5} + \frac{5}{6}$

10. $\frac{3}{4} + \frac{11}{12}$

11. $\frac{1}{2} - \frac{2}{5}$

12. $\frac{11}{12} - \frac{3}{4}$

13. $\frac{3}{4} - \frac{1}{12}$

14. $\frac{4}{5} + \frac{1}{2}$

15. $\frac{3}{5} + \frac{2}{3}$

16. $\frac{2}{3} - \frac{1}{4}$

17. $\frac{11}{12} - \frac{1}{6}$

18. $\frac{3}{5} + \frac{9}{10}$

19. How much more is $\frac{3}{8}$ gallon than $\frac{1}{4}$ gallon?

20. How much more is $\frac{3}{4}$ ounce than $\frac{1}{3}$ ounce?

21. Evaluate $x - y$ if $x = \frac{7}{10}$ and $y = \frac{3}{5}$.

22. Evaluate $s + t$ if $s = \frac{2}{3}$ and $t = \frac{5}{6}$.

Lesson 6–4

NAME _____ DATE _____ PERIOD _____

7-2 Practice: Skills

Multiplying Fractions

Multiply. Write in simplest form.

1. $\frac{3}{4} \times \frac{1}{2}$

2. $\frac{1}{3} \times \frac{2}{5}$

3. $\frac{1}{3} \times 6$

4. $\frac{2}{5} \times \frac{3}{7}$

5. $\frac{3}{8} \times 10$

6. $\frac{1}{6} \times \frac{3}{5}$

7. $\frac{2}{9} \times 3$

8. $\frac{9}{10} \times \frac{4}{5}$

9. $\frac{7}{8} \times \frac{2}{9}$

10. $11 \times \frac{3}{4}$

11. $\frac{5}{6} \times \frac{1}{4}$

12. $\frac{4}{9} \times \frac{2}{3}$

13. $\frac{7}{12} \times \frac{6}{11}$

14. $16 \times \frac{5}{12}$

15. $\frac{4}{9} \times \frac{1}{8}$

16. $\frac{1}{5} \times \frac{10}{11}$

17. $\frac{5}{12} \times \frac{3}{8}$

18. $\frac{1}{10} \times \frac{4}{7}$

19. $21 \times \frac{4}{7}$

20. $\frac{5}{9} \times 18$

21. $\frac{5}{6} \times \frac{8}{9}$

For Exercises 22–24, evaluate each expression if $x = 4$, $y = \frac{2}{3}$, and $z = \frac{1}{4}$.

22. $\frac{3}{8}x$

23. xz

24. $3x$

25. xy

26. $9y$

27. $\frac{1}{3}x$

28. yz

29. $8z$

30. xyz

31. If $a = \frac{6}{7}$, what is $\frac{2}{3}a$?

32. Evaluate st if $s = \frac{3}{8}$ and $t = 24$.

Lesson 7–2

NAME _____ DATE _____ PERIOD _____

7-3 Practice: Skills

Multiplying Mixed Numbers

Multiply. Write in simplest form.

1. $\frac{1}{3} \times 1\frac{1}{4}$

2. $2\frac{1}{2} \times \frac{3}{5}$

3. $\frac{3}{4} \times 3\frac{1}{3}$

4. $6\frac{1}{5} \times \frac{1}{2}$

5. $1\frac{3}{5} \times 3\frac{2}{3}$

6. $\frac{5}{7} \times 4\frac{1}{5}$

7. $\frac{4}{7} \times 3\frac{1}{9}$

8. $1\frac{3}{8} \times 2\frac{2}{7}$

9. $4\frac{1}{6} \times \frac{9}{10}$

10. $3\frac{1}{3} \times 2\frac{1}{4}$

11. $\frac{8}{9} \times 5\frac{1}{7}$

12. $2\frac{5}{8} \times 6$

13. $3\frac{3}{4} \times 2\frac{4}{5}$

14. $\frac{5}{7} \times 4\frac{3}{8}$

15. $20 \times 1\frac{2}{5}$

16. $2\frac{4}{9} \times \frac{6}{11}$

17. $5\frac{3}{4} \times 1\frac{1}{11}$

18. $14 \times 2\frac{5}{7}$

For Exercises 19–24, evaluate each expression if $r = 1\frac{2}{3}$, $s = 2\frac{1}{5}$, and $t = \frac{3}{4}$.

19. $4t$

20. st

21. $\frac{1}{2}r$

22. rs

23. $\frac{1}{11}s$

24. rt

25. Evaluate $\frac{2}{3}m$ if $m = 5\frac{1}{6}$.

26. What is ab if $a = 1\frac{5}{11}$ and $b = \frac{7}{8}$?

NAME _____ DATE _____ PERIOD _____

7-4 Practice: Skills

Dividing Fractions

Find the reciprocal of each number.

1. $\frac{1}{2}$ **2.** $\frac{3}{5}$ **3.** 7 **4.** $\frac{8}{11}$

5. 12 **6.** $\frac{9}{10}$ **7.** $\frac{5}{8}$ **8.** $\frac{3}{10}$

Divide. Write in simplest form.

9. $\frac{5}{6} \div \frac{1}{3}$ **10.** $\frac{9}{10} \div \frac{1}{2}$ **11.** $\frac{1}{2} \div \frac{3}{5}$

12. $8 \div \frac{4}{5}$ **13.** $\frac{7}{12} \div \frac{5}{6}$ **14.** $\frac{9}{10} \div \frac{1}{4}$

15. $\frac{3}{8} \div 9$ **16.** $\frac{9}{10} \div \frac{3}{4}$ **17.** $\frac{2}{5} \div \frac{4}{7}$

18. $15 \div \frac{5}{9}$ **19.** $\frac{6}{7} \div \frac{3}{11}$ **20.** $\frac{1}{9} \div \frac{5}{12}$

21. $\frac{5}{6} \div \frac{5}{12}$ **22.** $\frac{10}{11} \div 5$ **23.** $\frac{7}{9} \div \frac{1}{7}$

24. $\frac{6}{7} \div \frac{8}{9}$ **25.** $\frac{3}{5} \div \frac{9}{11}$ **26.** $5 \div \frac{4}{9}$

Find the value of each expression if $x = \frac{1}{4}$, $y = \frac{3}{5}$, and $z = \frac{2}{3}$.

27. $x \div y$ **28.** $z \div 2$ **29.** $y \div z$

30. $z \div x$ **31.** $\frac{1}{3} \div x$ **32.** $5 \div y$

Lesson 7–4

NAME _____ DATE _____ PERIOD _____

10-1 Practice: Skills

Ratios

Write each ratio as a fraction in simplest form.

1. 3 sailboats to 6 motorboats

2. 4 tulips to 9 daffodils

3. 5 baseballs to 25 softballs

4. 2 days out of 8 days

5. 6 poodles out of 18 dogs

6. 10 yellow eggs out of 12 colored eggs

7. 12 sheets of paper out of 28

8. 18 hours out of 24 hours

9. 16 elms out of 20 trees

10. 15 trumpets to 9 trombones

11. 5 ducks to 30 geese

12. 14 lions to 10 tigers

13. 6 sodas out of 16 drinks

14. 20 blue jays out of 35 birds

Write each ratio as a unit rate.

15. 14 hours in 2 weeks

16. 36 pieces of candy for 6 children

17. 8 teaspoons for 4 cups

18. 8 tomatoes for $2

19. $28 for 4 hours

20. 150 miles in 3 hours

21. $18 for 3 CDs

22. 48 logs on 6 trucks

23. Write the ratio *21 wins to 9 losses* as a fraction in simplest form.

24. Write the ratio *$12 dollars for 3 tickets* as a unit rate.

NAME _____ DATE _____ PERIOD _____

10-2 Practice: Skills

Solving Proportions

Solve each proportion.

1. $\frac{2}{5} = \frac{8}{x}$

2. $\frac{2}{7} = \frac{4}{y}$

3. $\frac{3}{5} = \frac{b}{30}$

4. $\frac{2}{9} = \frac{c}{36}$

5. $\frac{4}{5} = \frac{d}{25}$

6. $\frac{20}{4} = \frac{10}{f}$

7. $\frac{g}{2} = \frac{28}{14}$

8. $\frac{2}{x} = \frac{10}{25}$

9. $\frac{4}{3} = \frac{h}{18}$

10. $\frac{10}{30} = \frac{2}{r}$

11. $\frac{t}{18} = \frac{3}{6}$

12. $\frac{2}{3} = \frac{6}{m}$

13. $\frac{9}{2} = \frac{s}{6}$

14. $\frac{n}{36} = \frac{2}{6}$

15. $\frac{4}{u} = \frac{12}{21}$

16. $\frac{5}{6} = \frac{m}{12}$

17. $\frac{d}{27} = \frac{4}{9}$

18. $\frac{5}{8} = \frac{15}{q}$

19. $\frac{15}{27} = \frac{5}{k}$

20. $\frac{4}{x} = \frac{20}{30}$

21. $\frac{b}{3} = \frac{24}{9}$

22. $\frac{z}{35} = \frac{4}{7}$

23. $\frac{6}{c} = \frac{24}{28}$

24. $\frac{6}{8} = \frac{x}{24}$

25. $\frac{14}{16} = \frac{b}{8}$

26. $\frac{8}{r} = \frac{24}{27}$

27. $\frac{16}{36} = \frac{t}{9}$

28. $\frac{1.2}{2.4} = \frac{2.4}{n}$

29. $\frac{0.5}{1.8} = \frac{s}{9}$

30. $\frac{1.6}{w} = \frac{8}{16}$

31. What is the solution of $\frac{3}{5} = \frac{2}{k}$? Round to the nearest tenth.

32. Find the solution of $\frac{4.3}{3} = \frac{n}{2.2}$ to the nearest tenth.

Lesson 10–2

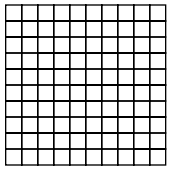
NAME _____ DATE _____ PERIOD _____

10-4 Practice: Skills

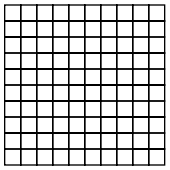
Modeling Percents

Model each percent.

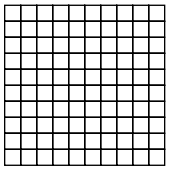
1. 15%



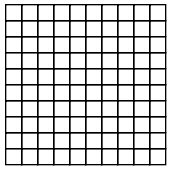
2. 50%



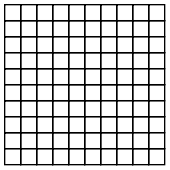
3. 75%



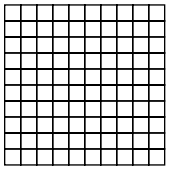
4. 80%



5. 21%

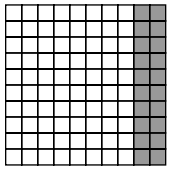


6. 48%



Identify each percent that is modeled.

7.



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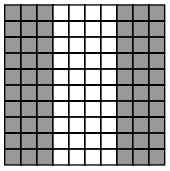

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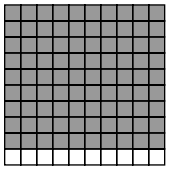

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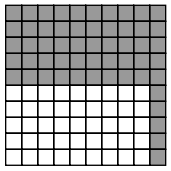

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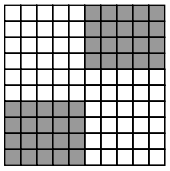

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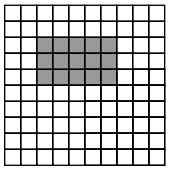

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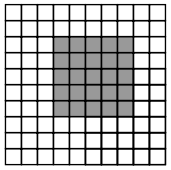

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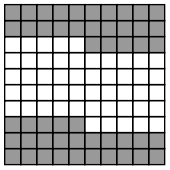

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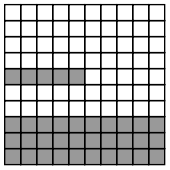


Lesson 10–4

NAME _____ DATE _____ PERIOD _____

10-5 Practice: Skills

Percents and Fractions

Write each percent as a fraction in simplest form.

1. 40%

2. 30%

3. 55%

4. 75%

5. 140%

6. 175%

7. 24%

8. 68%

9. 44%

10. 92%

11. 110%

12. 155%

13. 18%

14. 74%

15. 43%

Write each fraction as a percent.

16. $\frac{4}{5}$

17. $\frac{3}{20}$

18. $\frac{7}{10}$

19. $\frac{3}{5}$

20. $\frac{3}{2}$

21. $\frac{5}{4}$

22. $\frac{6}{5}$

23. $\frac{9}{20}$

24. $\frac{13}{20}$

25. $\frac{17}{20}$

26. $\frac{9}{5}$

27. $\frac{11}{10}$

28. $\frac{19}{20}$

29. $\frac{13}{10}$

30. $\frac{21}{100}$

NAME _____ DATE _____ PERIOD _____

10-6 Practice: Skills

Percents and Decimals

Write each percent as a decimal.

1. 5%

2. 8%

3. 37%

4. 12%

5. 29%

6. 54%

7. 48%

8. 79%

9. 0.1%

10. 0.6%

11. 0.2%

12. 0.5%

13. 123%

14. 102%

15. 135%

16. 310%

Write each decimal as a percent.

17. 0.3

18. 0.7

19. 0.19

20. 0.74

21. 0.66

22. 0.52

23. 0.21

24. 0.81

25. 0.13

26. 0.362

27. 0.528

28. 0.245

29. 0.194

30. 0.334

31. 0.426

32. 0.059

NAME _____ DATE _____ PERIOD _____

12-1 Practice: Skills

Length in the Customary System

Complete.

1. 2 ft = __?__ in.

2. 5 yd = __?__ ft

3. 18 ft = __?__ yd

4. 60 in. = __?__ ft

5. 3,520 yd = __?__ mi

6. 36 in. = __?__ yd

7. 3 yd = __?__ in.

8. $3\frac{1}{2}$ yd = __?__ ft

9. 2 mi = __?__ ft

Draw a line segment of each length.

10. $3\frac{1}{2}$ in.

11. $1\frac{3}{4}$ in.

12. $2\frac{1}{8}$ in.

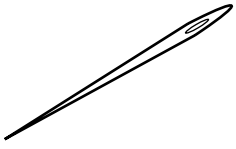
13. $1\frac{7}{8}$ in.

14. $2\frac{1}{4}$ in.

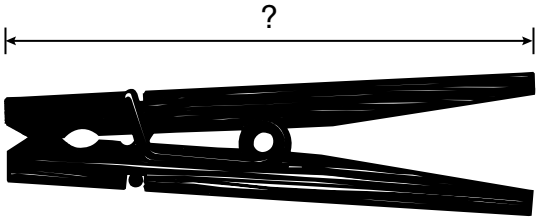
15. $\frac{5}{8}$ in.

For Exercises 16–18, find the length of each line segment or object to the nearest half, fourth, or eighth inch.

16.



17.



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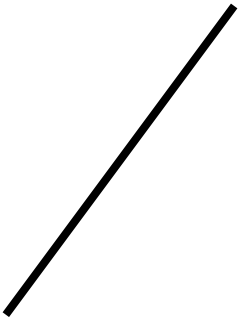


19. Which is greater: $2\frac{1}{4}$ feet or 26 inches? Explain.

20. Which is greater: $3\frac{1}{3}$ yards or 12 feet? Explain.

NAME _____ DATE _____ PERIOD _____

12-3

Practice: Skills

Length in the Metric System

Write the metric unit of length you would use to measure each of the following.

1. depth of an ocean

2. length of an eyelash

3. length of your bedroom

4. length of the Panama Canal

5. height of a can of soup

6. depth of a swimming pool

7. length of the eye of a needle

8. height of a washing machine

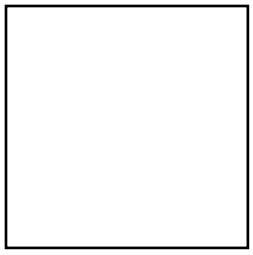
9. length of a pencil

10. width of a pencil

Measure each line segment or side of each figure in centimeters and millimeters.

11.

12. 

13. 

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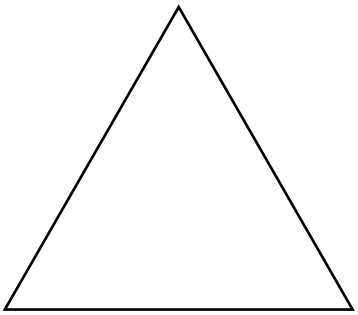
15. 

16.

NAME _____ DATE _____ PERIOD _____

1-8 Practice: Skills

Geometry: Area of Rectangles

Complete each problem.

1. Give the formula for finding the area of a rectangle.

2. Draw and label a rectangle that has an area of 18 square units.

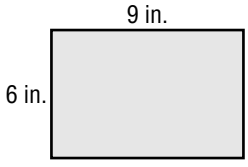
3. Give the dimensions of another rectangle that has the same area as the one in Exercise 2.

4. Find the area of a rectangle with a length of 3 miles and a width of 7 miles.

5. Find the area of a rectangle with a width of 54 centimeters and a length of 12 centimeters.

Find the area of each rectangle.

6.



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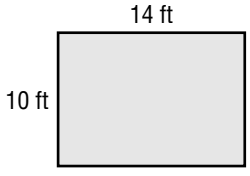

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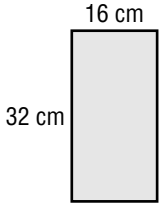

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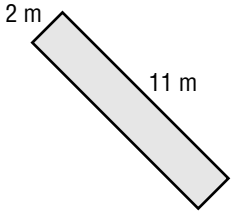

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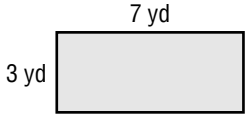

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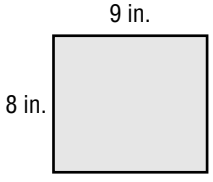

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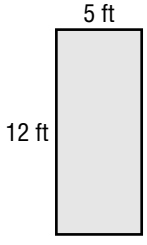

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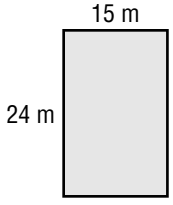

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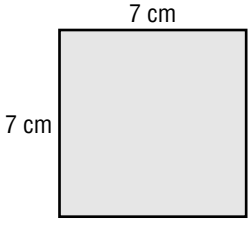

Lesson 1–8