

Cumulative Review

for Chapters 5 to 7

Concepts and Skills

Evaluate each expression for $x = 5$. (Lesson 5.1)

1. $x + 9$

2. $16 - x$

3. $4x$

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

Simplify each expression. (Lesson 5.2)

5. $y + 3y$

6. $a + a - 2$

7. $3b + 5b - 2b$

8. $8c + 6 - 1 - c$

Complete with =, >, or < for $d = 7$. (Lesson 5.3)

9. $d + 7 \bigcirc 15$

10. $3d - 10 \bigcirc 11$

11. $2d + 6 \bigcirc 3d - 2$

12. $(35 \div d) + 5 \bigcirc d$

Solve each equation. (Lesson 5.3)

13. $2e = 8$

14. $3f + 3 = 18$

$e = \underline{\hspace{2cm}}$

$f = \underline{\hspace{2cm}}$

15. $6g - 5 = 2g + 3$

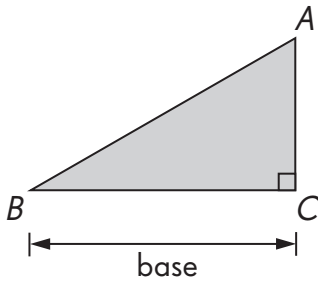
16. $4h - 11 = h + 16$

$g = \underline{\hspace{2cm}}$

$h = \underline{\hspace{2cm}}$

Complete to give both the base and the height in each triangle. (Lesson 6.1)

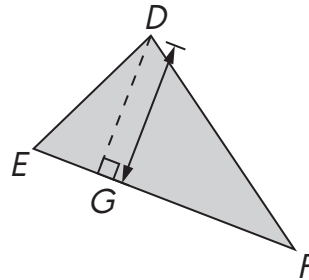
17.



Base: _____

Height: _____

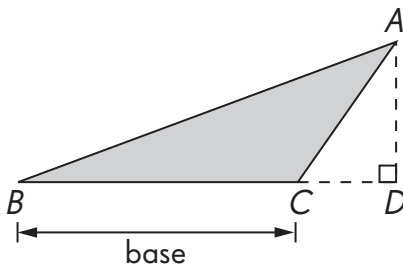
18.



Height: _____

Base: _____

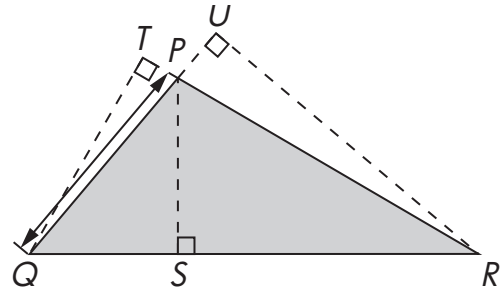
19.



Base: _____

Height: _____

20.

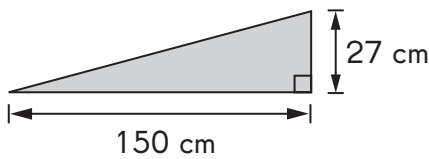


Base: _____

Height: _____

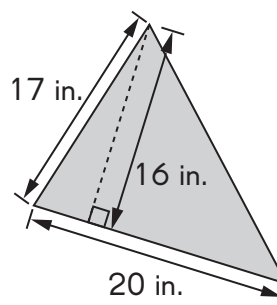
Find the area of each shaded triangle. (Lesson 6.2)

21.



Area = _____

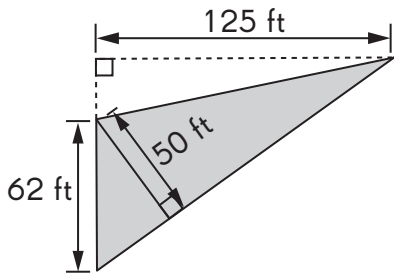
22.



Area = _____

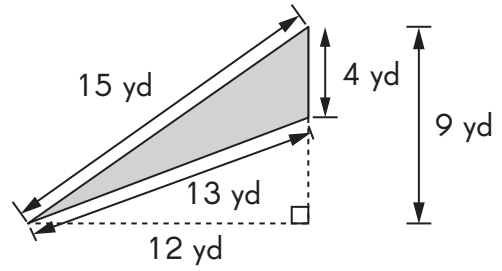
Find the area of each shaded triangle. (Lesson 6.2)

23.



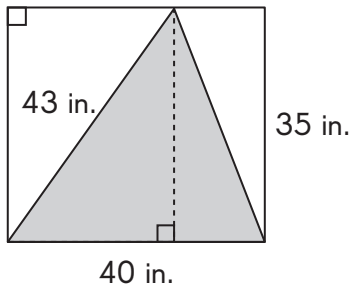
Area = _____

24.



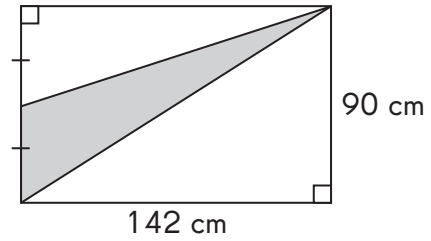
Area = _____

25.



Area = _____

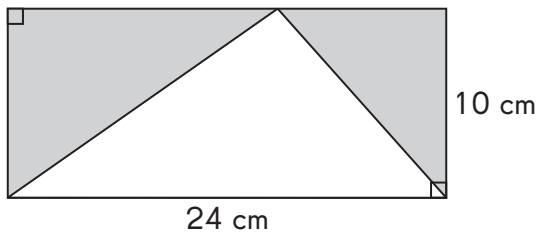
26.



Area = _____

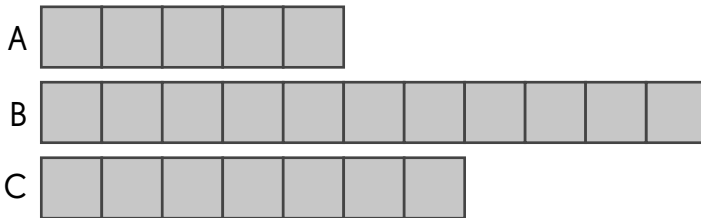
Find the total area of the shaded parts. (*Lesson 6.2*)

27.



Area = _____

Complete. (*Lesson 7.1*)

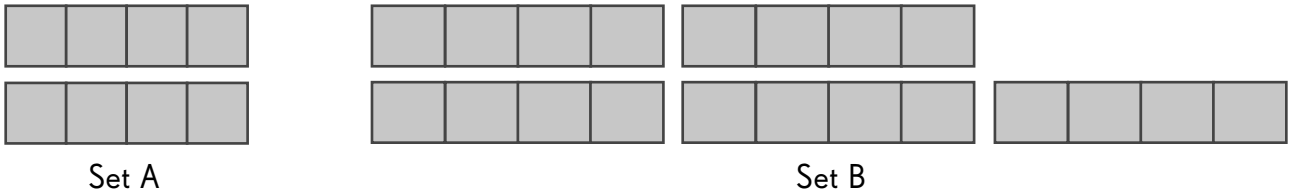


28. The ratio of the length of A to the length of B is _____: _____.

29. The ratio of the length of C to the length of A is _____: _____.

30. The ratio of the length of B to the total length of A, B, and C is
_____:

Complete. (Lesson 7.2)



- 31.** The ratio of the number of squares in Set A to the number of squares in Set B is _____ : _____.
- 32.** The ratio of the number of groups in Set A to the number of groups in Set B is _____ : _____.
- 33.** _____ : _____ = _____ : _____ in simplest form.

Find the missing number or term in each set of equivalent ratios. (Lesson 7.2)

- 34.** $7 : 4 = 21 : \underline{\hspace{2cm}}$ **35.** $5 : 9 = \underline{\hspace{2cm}} : 63$
- 36.** $18 : 21 = 6 : \underline{\hspace{2cm}}$ **37.** $108 : 72 = \underline{\hspace{2cm}} : 6$

Complete. (Lesson 7.4)

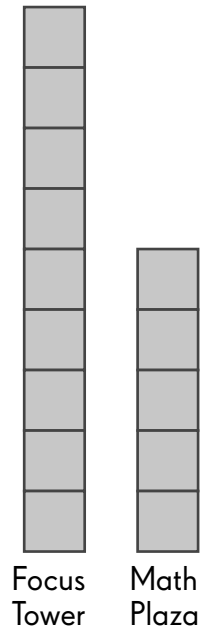
The heights of two buildings are shown.

- 38.** The ratio of the height of Math Plaza to the height of

Focus Tower is $\frac{\square}{\square}$.

- 39.** The height of Math Plaza is _____ times
the height of Focus Tower.

- 40.** The height of Focus Tower is _____ times
the height of both buildings.

**Express each ratio in simplest form.** (Lesson 7.5)

- 41.** $8:12:24 = \underline{\quad} : \underline{\quad} : \underline{\quad}$ **42.** $21:9:36 = \underline{\quad} : \underline{\quad} : \underline{\quad}$

Find the missing numbers or terms in each set of equivalent ratios. (Lesson 7.5)

- 43.** $4:6:9 = 24:\underline{\quad}:\underline{\quad}$ **44.** $48:56:28 = \underline{\quad}:\underline{\quad}:7$

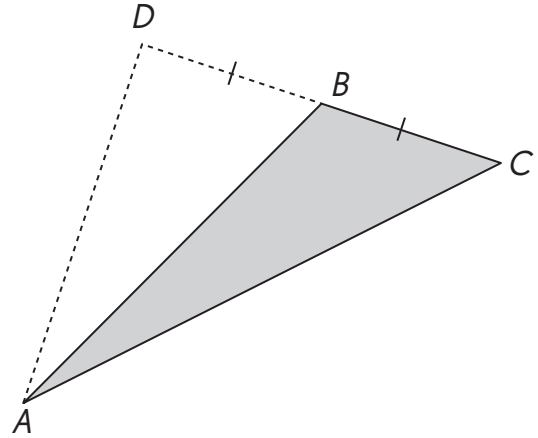
Problem Solving

Solve. Show your work.

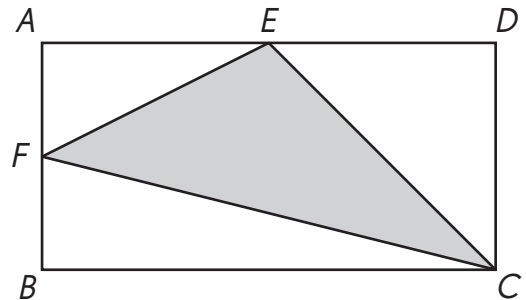
- 45.** Mandy scores b points in a basketball game. Jay scores 3 points less than Mandy. Kareem scores 2 times as many points as Mandy.
- Find the number of points that Jay scores in terms of b .
 - Find the total number of points the three players score in terms of b .
- 46.** David reads a book that has $(3x + 6)$ pages. Ellen reads a book that has $(4x - 4)$ pages.
- If $x = 7$, whose book has more pages?
 - For what value of x will the two books have the same number of pages?

Solve. Show your work.

- 47.** In the figure, $BC = 18$ cm and $AD = CD$. The length of CD is twice the length of BC . Find the area of the shaded triangle ABC .



- 48.** $ABCD$ is a rectangle with a width of 12 centimeters. Its length is twice as long as its width. $AE = 12$ centimeters and $AF = BF$. Find the area of the shaded triangle CEF .



Solve. Show your work.

Give your answer in either ratio form or fraction form.

- 49.** There were 45 pennies in Container A and 79 pennies in Container B at first. Suki took 7 pennies out from Container A. She then put them into Container B.
- a.** What is the ratio of the number of pennies in Container A to that in Container B at first?
- b.** Find the ratio of the number of pennies in Container A to that in Container B in the end. Express your answer in simplest form.

Solve. Show your work.

51. A company makes yearly donations to Charities A, B and C in the ratio 3 : 7 : 9. It donates \$5,096 to Charity B in a year.

a. How much does it donate to Charity A in a year?

b. How much does it donate to all three charities in a year?

52. The ratio of the number of boys to the number of girls in a camp is 3 : 7. There are 24 boys in the camp.

a. How many girls are there in the camp?

b. The camp fee is \$50 per person. Find the total amount of fees the girls pay.