1) (+15) - (+61) =

2) (+27) - (+61) =

3) (+44) - (+43) =

4) (-61) - (+62) =

5) (+52) - (+35) =

6) (-54) - (-68) =

7) (+60) - (-56) =

8) (-93) - (-17) =

9) (+26) - (+93) =

10) (-26) - (+73) =

11) (-97) - (-61) =

12) (-76) - (-46) =

13) (+66) - (-58) =

14) (+17) - (+77) =

15) (+24) - (-60) =

16) (-33) - (+35) =

17) (-80) - (+94) =

18) (+79) - (+69) =

19) (+19) - (-68) =

20) (+5) - (+18) =

21) (+13) - (-28) =

22) (-51) - (-94) =

23) (-82) - (+91) =

24) (-47) - (-92) =

25) (-69) - (+70) =

26) (-79) - (+87) =

27) (+43) - (-54) =

28) (-66) - (-4) =

29) (+70) - (-36) =

30) (-65) - (-48) =

1) (-86) + (+8) =

2) (+86) - (+99) =

3) (-2) x (-72) =

4) (-864) ÷ (+18) =

5) (+84) + (+92) =

6) (+61) - (+92) =

7) (+594) ÷ (+33) =

8) (-759) ÷ (+33) =

9) (-86) x (-86) =

10) (+161) ÷ (-23) =

11) (-28) + (+37) =

12) (-91) - (+97) =

13) (+25) x (-4) =

14) (-2806) ÷ (-46) =

15) (+42) - (+14) =

16) (+93) x (+94) =

17) (+13) - (-54) =

18) (+16) + (+62) =

19) (+14) - (-55) =

20) (-68) x (+8) =

21) (+96) x (+27) =

22) (+72) + (-11) =

23) (-49) x (+76) =

24) (-42) - (+9) =

25) (+65) - (-53) =

26) (+7) + (+90) =

27) (-6622) ÷ (+77) =

28) (+60) x (+50) =

29) (+7387) ÷ (+89) =

30) (+44) + (+40) =

1) (+60) x (-46) =

2) (+47) + (+59) =

3) (+94) + (-56) =

4) (+71) - (+10) =

5) (+2460) ÷ (-60) =

6) (+84) - (-51) =

7) (+219) ÷ (-73) =

8) (-7) - (+83) =

9) (+76) x (+40) =

10) (+35) - (+98) =

11) (-82) + (+13) =

12) (+6059) ÷ (-83) =

13) (+69) x (+2) =

14) (+60) - (+48) =

15) (+98) + (+9) =

16) (-291) ÷ (+3) =

17) (+2) - (+23) =

18) (+76) x (+2) =

19) (+25) x (+96) =

20) (+57) - (+64) =

Name : _____   Score : _____

Teacher : _____   Date : _____

Evaluate the Exponents

1) $(12)^5$ = _____

2) $(5)^2$ = _____

3) $(3)^4$ = _____

4) $(10)^3$ = _____

5) $(8)^3$ = _____

6) $(9)^3$ = _____

7) $(6)^4$ = _____

8) $(2)^3$ = _____

9) $(2)^2$ = _____

10) $(3)^5$ = _____

11) $(7)^2$ = _____

12) $(12)^5$ = _____

13) $(8)^3$ = _____

14) $(2)^4$ = _____

15) $(3)^5$ = _____

16) $(10)^4$ = _____

17) $(9)^2$ = _____

18) $(4)^2$ = _____

19) $(4)^4$ = _____

20) $(7)^5$ = _____

Name : _____   Score : _____

Teacher : _____   Date : _____

Evaluate the Exponents

1) $(-2)^2$ = _____

2) $(-12)^5$ = _____

3) $(12)^4$ = _____

4) $(-5)^3$ = _____

5) $(10)^3$ = _____

6) $(6)^5$ = _____

7) $(-8)^2$ = _____

8) $(-9)^5$ = _____

9) $(9)^2$ = _____

10) $(3)^5$ = _____

11) $(-7)^3$ = _____

12) $(-4)^2$ = _____

13) $(8)^5$ = _____

14) $(7)^4$ = _____

15) $(2)^3$ = _____

16) $(3)^4$ = _____

17) $(5)^4$ = _____

18) $(-3)^2$ = _____

19) $(4)^3$ = _____

20) $(-10)^4$ = _____

Converting Fractions (B)

Name:_____   Date:_____

Convert each mixed fraction to an improper fraction.

$2\frac{2}{5} = -$ $5\frac{3}{4} = -$ $6\frac{3}{5} = -$ $7\frac{1}{6} = -$

$9\frac{1}{4} = -$ $3\frac{11}{12} = -$ $7\frac{4}{9} = -$ $8\frac{2}{15} = -$

$6\frac{1}{12} = -$ $1\frac{7}{9} = -$ $1\frac{2}{9} = -$ $8\frac{1}{10} = -$

$4\frac{5}{12} = -$ $7\frac{5}{6} = -$ $3\frac{3}{10} = -$ $6\frac{6}{7} = -$

$4\frac{1}{7} = -$ $7\frac{4}{7} = -$ $3\frac{4}{5} = -$ $8\frac{3}{8} = -$

$7\frac{1}{5} = -$ $5\frac{8}{15} = -$ $2\frac{4}{15} = -$ $8\frac{7}{10} = -$

$7\frac{5}{9} = -$ $9\frac{5}{7} = -$ $8\frac{2}{7} = -$ $1\frac{1}{8} = -$

$3\frac{7}{8} = -$ $5\frac{1}{3} = -$ $2\frac{11}{15} = -$ $1\frac{1}{2} = -$

$2\frac{1}{15} = -$ $4\frac{8}{9} = -$ $6\frac{5}{8} = -$ $9\frac{3}{7} = -$

$8\frac{9}{10} = -$ $1\frac{1}{9} = -$ $9\frac{7}{12} = -$ $4\frac{7}{15} = -$

Math-Drills.com

Name: _____   Date: _____

Convert each mixed fraction to an improper fraction.

$9\frac{1}{9} = -$ $3\frac{8}{9} = -$ $8\frac{7}{12} = -$ $7\frac{7}{9} = -$

$3\frac{11}{15} = -$ $3\frac{2}{5} = -$ $4\frac{2}{7} = -$ $7\frac{1}{3} = -$

$5\frac{1}{7} = -$ $2\frac{7}{10} = -$ $3\frac{4}{5} = -$ $4\frac{5}{7} = -$

$3\frac{3}{8} = -$ $6\frac{1}{8} = -$ $5\frac{5}{6} = -$ $7\frac{4}{15} = -$

$4\frac{2}{9} = -$ $9\frac{1}{6} = -$ $7\frac{5}{8} = -$ $1\frac{5}{9} = -$

$6\frac{4}{7} = -$ $8\frac{7}{15} = -$ $6\frac{1}{5} = -$ $8\frac{1}{12} = -$

$8\frac{1}{15} = -$ $7\frac{5}{12} = -$ $1\frac{3}{10} = -$ $6\frac{8}{15} = -$

$1\frac{9}{10} = -$ $4\frac{6}{7} = -$ $1\frac{1}{4} = -$ $1\frac{11}{12} = -$

$3\frac{4}{9} = -$ $3\frac{1}{10} = -$ $2\frac{1}{2} = -$ $4\frac{3}{5} = -$

$4\frac{7}{8} = -$ $6\frac{2}{15} = -$ $5\frac{3}{4} = -$ $5\frac{3}{7} = -$

Order of Operations

1) $(42 - 2) \div 4 + 5^2$

6) $8 \times (12 - 4) + 4^2$

2) $(66 - 4^2) \div (28 - 3)$

7) $2 \times (13 - 6) - 5^2$

3) $(34 - 6) \div 14 - 4^2$

8) $(3 \times 10 - 5^2) - 2$

4) $(40 - 2^2) \div (4 - 2)$

9) $(4 \times 7 - 9^2) + 3$

5) $(13 - 5)^2 + (14 \div 2)$

10) $(12 - 5)^2 + (14 \div 2)$

Simplifying Expressions (A)

Simplify each expression.

1. $2x^2 - 10x^2 + 9x$

2. $7a^2 + 8a + 9a^2$

3. $5 \cdot 5x^2 \cdot (-5x)$

4. $-1 - a^2 - 4a^2$

5. $-x^2 - 1 - 5x^2$

6. $-1 + 1 - c^2$

7. $2 + 8z^2 + 1$

8. $x^2 - x - x$

9. $-\dfrac{u^2}{-u^2} \cdot \left(-u^2\right)$

10. $-a \cdot \dfrac{7a^2}{a}$

Adding Linear Expressions (C)
Simplify each expression.

1. $(-3z + 1) + (-8z + 9)$

2. $(-8k + 5) + (-6k - 3)$

3. $(-t + 2) + (-6t - 5)$

4. $(5k - 3) + (-4k - 8)$

5. $(-5s + 6) + (5s + 3)$

6. $(-3r + 7) + (-2r - 8)$

7. $(-5w) + (3w - 3)$

8. $(5x - 6) + (2x + 5)$

9. $(4z - 9) + (3z + 5)$

10. $(7w - 7) + (4w + 7)$

Adding Linear Expressions (B)

Simplify each expression.

1. (-6c) + (8c - 6)

2. (k + 5) + (5k - 5)

3. (9h - 8) + (-6h + 3)

4. (3k - 6) + (-9k - 4)

5. (-6k - 5) + (4k - 7)

6. (-7c - 9) + (7c + 7)

7. (2b + 9) + (9b + 5)

8. (q - 4) + (-2q - 6)

9. (8k - 4) + (-4)

10. (9s + 9) + (-5s - 9)

Solve the Equations

1) $2.5 = \dfrac{v}{7}$

$v = 17.5$

2) $-11 = 4.8 + h$

3) $z + 6.6 = -2.8$

4) $-60.5 = -5.5\,d$

5) $-3.2 = b + 3.6$

6) $\dfrac{2.6\,x}{2.6} = \dfrac{10.4}{2.6}$

$x = 4$

7) $\dfrac{y}{3} = 2.5$

8) $4 = 5.6 + r$

9) $28.5 = -5.7\,n$

10) $4.6\,k = -36.8$

Solve the Equations

1) $-6 = \dfrac{c}{7}$

$-42 = c$

6) $\dfrac{35}{7} = \dfrac{7x}{7}$

$5 = x$

2) $-6 = 3 + s$

7) $-2d = -22$

3) $-7 = 5 + a$

8) $-6z = -66$

4) $\dfrac{v}{2} = 4$

9) $4 = r - 7$

5) $y - 2 = 8$

10) $16 = 2b$

Solve the Equations

Round your answers to the nearest hundredth if needed.

1) $-29 = 7 + 9(a - 2)$

$-29 = 7 + 9a - 18$

$-29 = 9a - 11$

$\quad +11 \qquad +11$

$-18 = 9a$ $\qquad \boxed{a = -2}$

$\overline{9} \qquad \overline{9}$

2) $-2z + 9 - 8z = -26$

3) $-2(9f - 4) = 24$

4) $-30 + 6r = 3(5r - 8)$

5) $29 = -3n - 5n$

6) $15 = 7(5b + 6)$

7) $7c - 8c = 31$

8) $3(4k - 2) = 28 - 9k$

9) $-3(8 - 6s) = 30$

10) $-6 + 4(1 + 2x) = -24$

Math-Aids.Com

Name : _____   Score : _____

Teacher : _____   Date : _____

Four Quadrant Graphing Puzzle
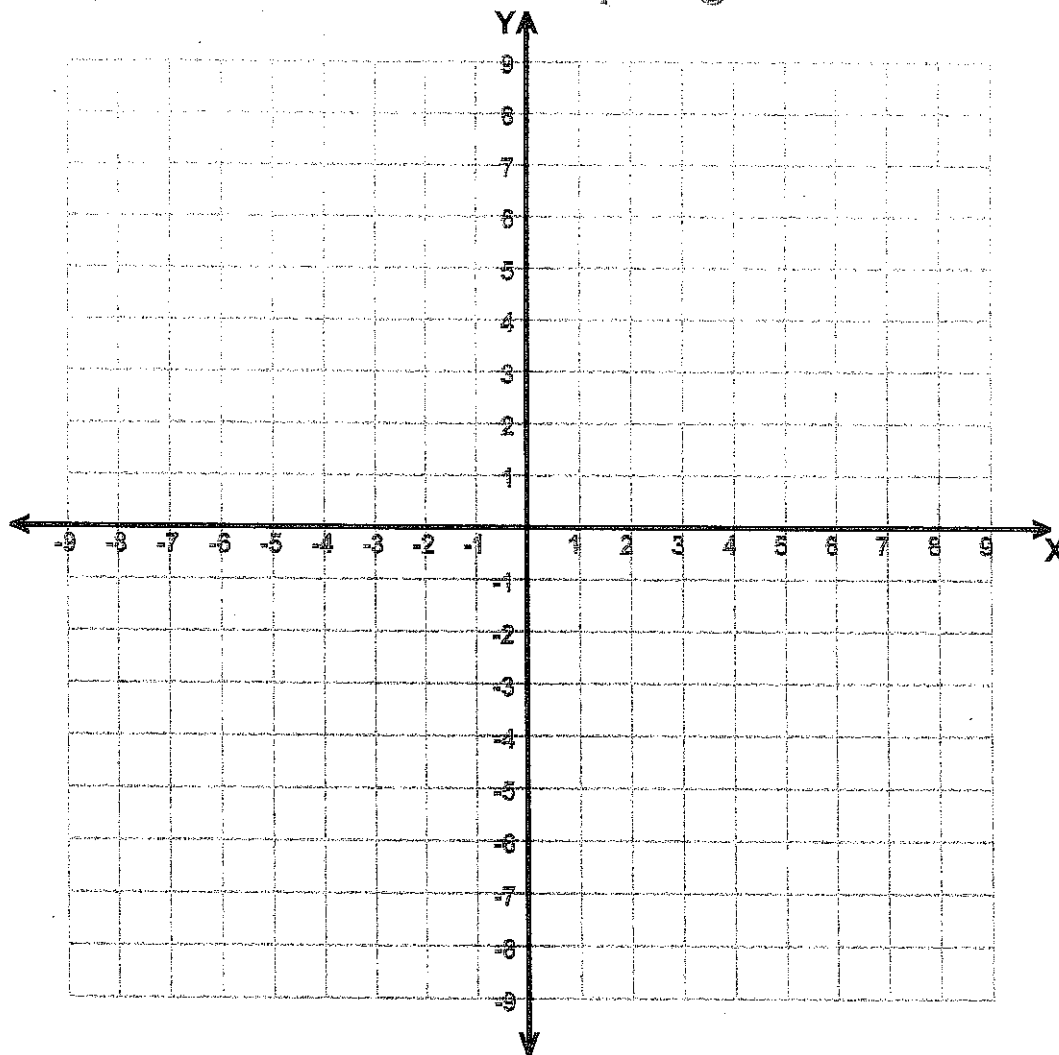
Connect each sequence of points with a line.

(-9,3) , (-7,5) , (-4,6) , (0,9) , (1,5) , (5,4) , (8,6) , (6,3) , (8,0) , (5,2) , (-1,-1) , (-5,-1) , (-9,3) End of Sequence

(-5,2) , (2,2) , (-2,1) , (-5,2) End of Sequence

(-6,4) , (-6,4.5) , (-5.5,4.5) , (-5.5,4) , (-6,4) End of Sequence

(-9,3) , (-6,3) End of Sequence

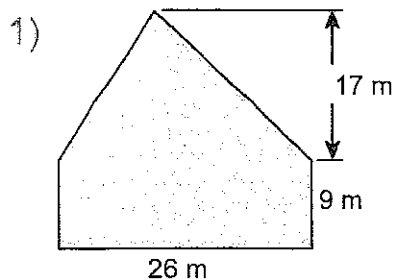**What is the shape ?**
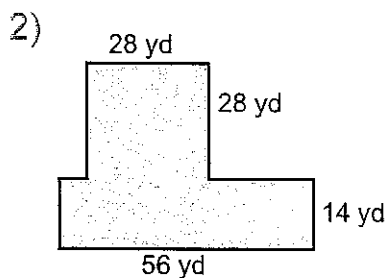
Name : _____   Score : _____

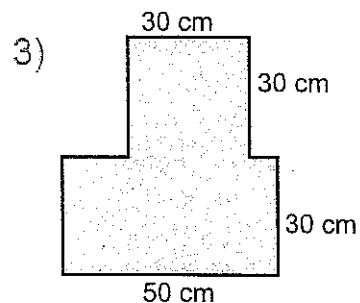# Teacher : _____   Date : _____

Compound Shapes

Find the area of each figure, round your answer to the nearest whole number if necessary.
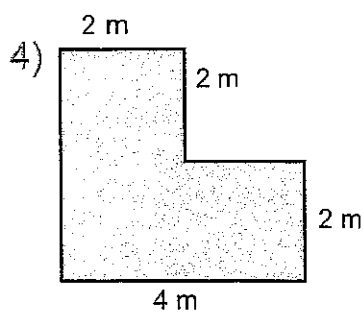
1)

17 m

9 m

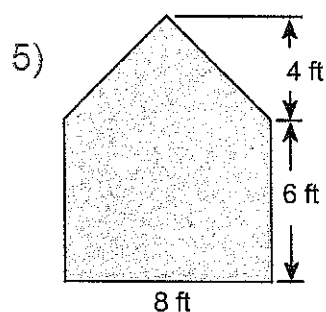26 m

Area: _____

2)

28 yd

28 yd

14 yd

56 yd

Area: _____

3)

30 cm

30 cm

30 cm

50 cm

Area: _____

4)

2 m

2 m

2 m

4 m

Area: _____

5)

4 ft

6 ft

8 ft

Area: _____

6)

12 yd

12 yd   6 yd

Area: _____

7)

22 ft

20 ft

23 ft

20 ft

Area: _____

8)

9 in

9 in

9 in

18 in

Area: _____

9)

15 in   1.5 in

9 in

1.5 in

9 in
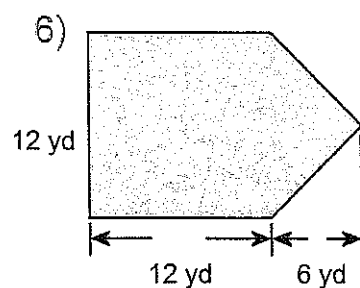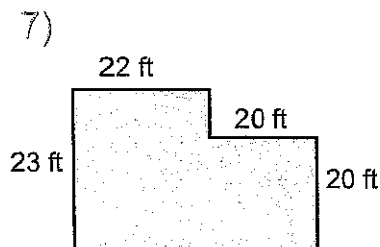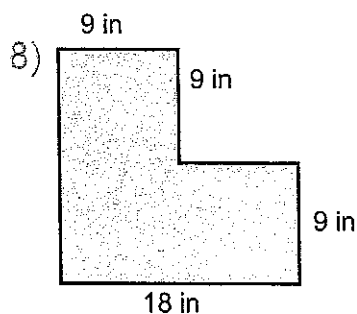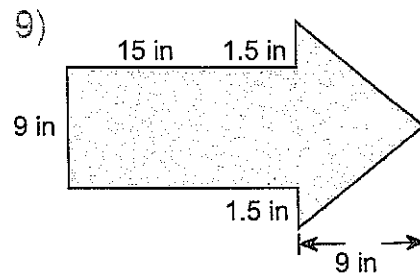
Area: _____

Walk, Don't Run

1. The Walking Club is one of the after-school activities at Jefferson Middle School. It consists of three groups of walkers. Each group walks at a different pace. All groups begin together and walk the same 4-mile trail.

   a. Wendy is new to the club. She asks each group how fast they walk. Each group gives the answer in a different way. Find the speed of each group in miles per hour.

      Group 1: We walk $2\frac{1}{2}$ miles per hour.

      Group 2: We walk a mile in 20 minutes.

      Group 3: We take 2 hours to walk the trail.

   b. Which group will finish first? Explain how you know.

   c. How long will it take Group 1 to complete the trail?

   d. If each group starts promptly at 2:30 P.M., what time will Group 2 finish?

Zesty Black Bean Salsa

2. The Chef's Club is making black bean salsa.

The recipe they are using has just two ingredients.

Zesty Black Bean Salsa
30 ounces canned black beans
16 ounces tomato salsa

a. Using the above recipe, how many ounces of black beans will be used for every ounce of tomato salsa?

b. The members of the club have decided that they will make $\frac{3}{4}$ of the recipe. How many ounces of black beans will they use? How many ounces of tomato salsa will they use?

c. Several members decide that they would like to try the recipe at home. They record the amounts of each ingredient that they will use.

Which members' black bean salsa will have the same ratio of beans to tomato salsa as the original recipe?

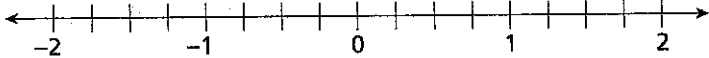| Name	Black Beans (ounces)	Tomato Salsa (ounces)
Jackson	8	10
Tamisha	20	$10\frac{2}{3}$
Logan	7.5	4
Samina	45	24
Lily	10	$5\frac{1}{3}$

d. Carrie decides to make a graph of the ordered pairs of numbers in the table in part c. She uses the x-axis to represent the number of ounces of black beans and the y-axis to represent the number of ounces of tomato salsa. Will all of the points lie on a straight line? Explain.

Virtual Investments

3. Each member of the Stock Market Club begins with $5,000 in virtual money.
   Each week, members compare their virtual portfolio values with other
   members of the club.

   Sophia buys shares in Fly Away Airlines. During the first week, the stock drops
   $0.75 (0.75 point) per share. During the second week, the stock goes up $0.50
   (0.5 point) per share.

   a. What is the total change in points per share of Fly Away Airlines stock
      during the first two weeks?

   b. Explain why your answer to part a is positive or why it is negative.

   c. On the number line below, draw a point to represent the change in the first
      week and a point to represent the change in the second week.

   d. What is the difference between the change in the first week and the
      change in the second week? Explain how the number line in part c shows
      the difference.

   e. The stock market is open for trading 5 days per week, Monday through
      Friday. For the two-week period, what is the average change for Fly Away
      Airlines per day of trading?

Trivia Time

4. The Trivia Club is open to seventh and eighth graders only. Members practice weekly and participate in monthly competitions between the seventh and the eighth grade teams.

   a. There are a total of 45 club members. There are 25% more eighth graders than seventh graders. How many members are from each grade?

   b. During the first half of each monthly competition, each correct answer is worth 15 points. During the second half of the competition, each correct answer is worth 25 points. In this month's competition, the seventh grade team answers 30 questions correctly during the first half and has a total of 1,450 points at the end of the competition. How many questions does the team answer correctly during the second half?

   Let q equal the number of questions the team answered correctly during the second half. Write and solve an equation to solve the problem.

   c. Use substitution to check your solution to the equation you wrote in part b.

   d. Use the information from part b. In this month's competition, the eighth grade team scores 10% fewer points than the seventh grade team. How many points does the eighth grade team score?

Digital Video Festival

5. Members of the Digital Video Club produce short videos. At the end of each school year, the club presents a Digital Video Festival at a local theater to show the community their 25 best videos.

a. The club has learned from experience over the years that when they do not charge an admission fee, attendance is 800 people. For every dollar charged in admission, the attendance drops by 8 people. Write an inequality that can be used to find the price p in dollars that the club should charge so that at least 750 people will attend the film festival.

b. Solve the inequality you wrote in part a.

c. Explain in words what the solution to the inequality means in terms of the situation. Explain why the direction of the inequality sign in the solution makes sense.

d. Use a number line to show the amount in dollars, p, that the club can charge and have at least 750 people attend the festival.

Whispering Willows

1. Each summer, Kim and her family spend a week at Rapid River Campground. This year, their campsite is in a section called Whispering Willows. The figure at the right is a scale drawing of this section of the campground.

Whispering Willows
Scale 1 cm : 10 m
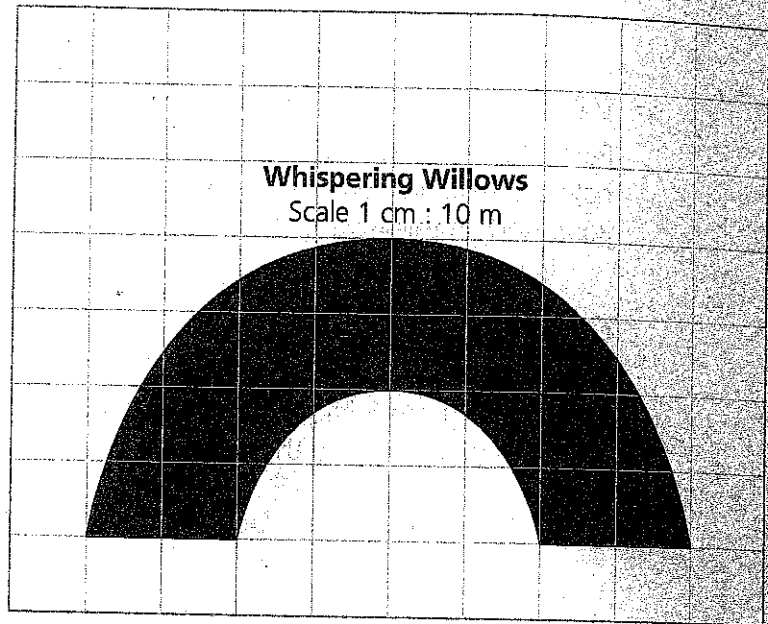
a. What is the distance around Whispering Willows? Use 3.14 for π.

b. Kim and her sister Lola walk around Whispering Willows twice. Do they walk more or less than 0.5 kilometer? Explain.

c. What is the area of Whispering Willows? Use 3.14 for π.

d. If each of the 16 campsites in Whispering Willows is approximately the same size, what is the approximate area of each campsite? Round your answer to the nearest square meter.

Bike Ride at the Campground

2. Kim and her mother bike to the swimming pool and back.

   Scale 1 in. : $\frac{1}{4}$ mile

   a. They begin at their campsite and ride $\frac{3}{4}$ mile directly west to the camp store and then ride directly north 1 mile to the swimming pool. In the space at the right, draw their path. Label the point for the camp store and the point for the swimming pool. Use a ruler and the scale for your drawing.

   N
   W ←———→ E
   S

   b. They take the shortest path back from the swimming pool to the campsite. The path is a straight line. Draw the path. How many miles is it? Explain.
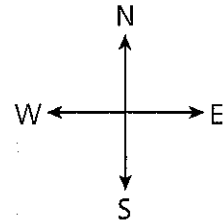
   • Campsite

   c. What is the total distance of the bike ride?

   d. The three points form a triangle. The angle of the triangle that is at the campsite has a measure (to the nearest degree) of 53°. Without using a protractor, find the measure (to the nearest degree) of the angle of the triangle that is at the swimming pool. Explain your method.
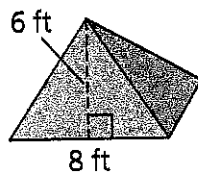
Comparing Tents

3. Kim's family has pitched two tents at their campsite. The shapes and dimensions of the tents are shown below.

Tent A
Right Triangular Prism
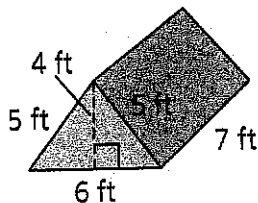
Tent B
Right Square Pyramid

4 ft
5 ft
5 ft
7 ft
6 ft

6 ft
8 ft

a. How much floor space does each tent have?

Tent A _____

Tent B _____

b. Kim claims that Tent B has at least 50% more floor space than Tent A. Do you agree? Justify your answer.

c. What is the surface area of each tent?

Tent A _____

Tent B _____

d. Both tents are made from the same nylon material. Kim claims that at least 50% more nylon was needed to make Tent B than Tent A. Do you agree? Justify your answer.
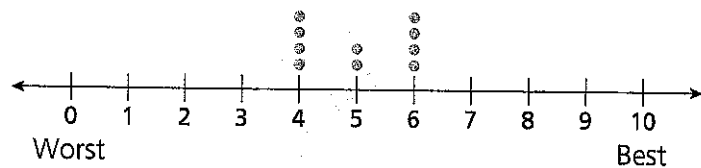
Exit Surveys at Rapid Rivers Campground

4. When checking out of Rapid Rivers Campground, campers are randomly selected to rank their camping experience on a scale of 0–10.

The dot plots show the rankings given by 12 youth campers (age 5–17) and 10 adult campers (age 18 and over).

Rankings—Youth Campers
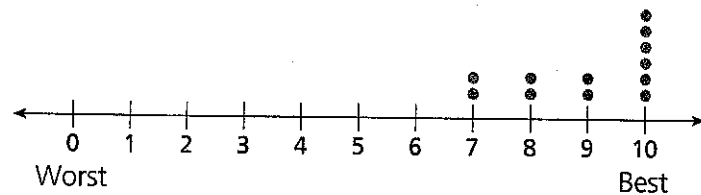
Rankings—Adult Campers

a. Find the mean ranking for each group of campers.

Youth mean _____

Adult mean _____

b. Find the mean absolute deviation (MAD) for the rankings of each group.

Youth MAD _____

Adult MAD _____

c. Did one of the groups show more variation in their rankings? If so, which group? Explain.

d. The camp manager claims that the difference between the means for the two groups is significant because it is about three times the variability of either group. Do you agree? Explain.

Souvenirs for Everyone

5. As campers check out, each is given a free souvenir from Rapid Rivers Campground.

   a. To determine which souvenir a camper receives, the camper spins the spinner shown at the right. What is the probability that Kim will receive a t-shirt?
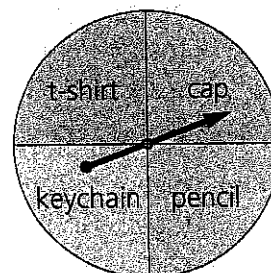
   b. Use an organized list, a tree diagram, or a table to show the sample space for this compound event: Kim spinning the spinner and her sister Lola spinning the spinner.

   c. Use the sample space from part b. What is the probability that both Kim and Lola will get the same souvenir?

   d. Use the sample space from part b. What is the probability that both Kim and Lola will both get a t-shirt?

   e. Use the sample space from part b. What is the probability that neither Kim nor Lola will get a t-shirt?