



TEACHER GUIDE

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STUDENT HANDOUTS

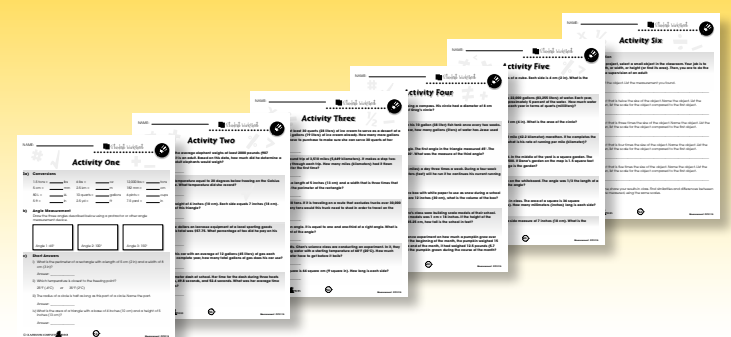
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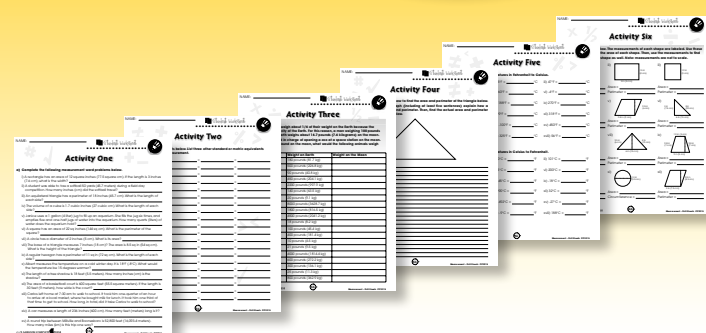
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Task Sheet 4

A Protracted Arrangement

- 4) For the following activity, you are going to need a protractor. Then, look at the clues in each box. Draw the angle that is being described with the clue. Then, write how many degrees each angle will have.



Angle One: Draw an angle that equals one-half a right angle.

How many degrees is the angle? _____

Angle Two: Draw a supplementary angle to an angle that is 100° .

How many degrees is the angle? _____

Angle Three: Draw a complementary angle to an angle that is 60° .

How many degrees is the angle? _____

Angle Four: Draw an angle that is one-third the size of a 45° angle.

How many degrees is the angle? _____

Angle Five: Draw an angle that equals one and one-half right angles.

How many degrees is the angle? _____

Angle Six: Draw an angle that is 30° less than a straight angle.

How many degrees is the angle? _____



Task Sheet 12

Dining In

- 12) Janelle works at the Carroll Café, a small restaurant near her school. The following is a partial copy of the lunch menu found at the restaurant. Use the menu to answer the questions below.

CARROLL CAFÉ - Lunch Menu		
Sandwiches	Sides	Beverages
Vegetarian Pocket... \$4.99	Fruit Cup..... \$3.99	Soft Drinks
Meatball Sub..... \$4.99	Salad..... \$3.99	Small..... \$1.00
Cold Cut Sub..... \$5.99	Breadsticks... \$4.99	Medium... \$1.50
Chicken Cutlet..... \$7.99	Potato Skins... \$5.99	Large..... \$2.00



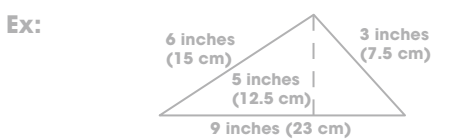
- a) Janelle's first customer ordered a meatball sub, a fruit cup, and a medium soft drink. What was the customer's total before tax?
- b) One item on the menu is approximately $\frac{1}{8}$ the cost of another item. Name both items.
- c) Janelle's second customer ordered a sandwich, a side, and a beverage totaling \$15.98 before tax. What three items did the customer order?
- d) If a customer ordered a small soft drink, a salad, and a cold cut sub, and there was a 5 percent meal tax on the total, how much would the customer spend in total on the meal?

Explore With Technology

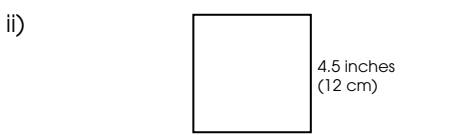
Find out the local meal tax in your location. Write the tax rate below. How does it compare to the rate charged at the Carroll Café?



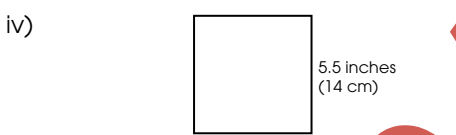
- 3a) Look at the shapes below. The sides of each shape are given. Provide the area and perimeter for each shape.



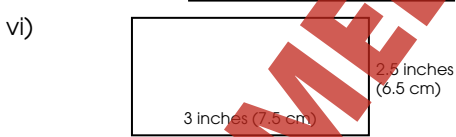
Area = **22.5 sq in (143.75 sq cm)**
Perimeter = **18 in (45.5 cm)**



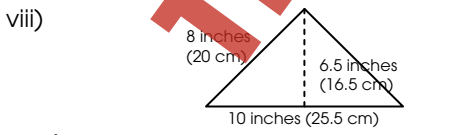
Area = _____
Perimeter = _____



Area = _____
Perimeter = _____



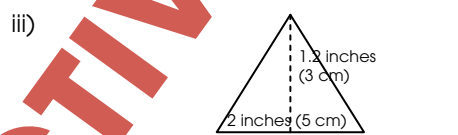
Area = _____
Perimeter = _____



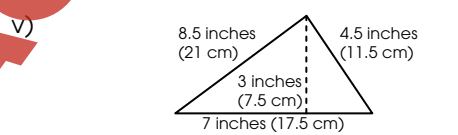
Area = _____
Perimeter = _____



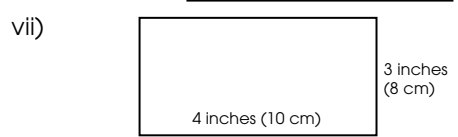
Area = _____
Perimeter = _____



Area = _____
Perimeter = _____



Area = _____
Perimeter = _____



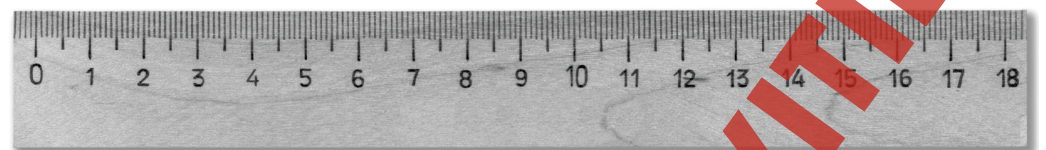
Area = _____
Perimeter = _____



Area = _____
Perimeter = _____



- 10a) Draw the following shapes described below using a ruler. Then, find the perimeter and area of the shape you have drawn.



- i) A square with a side of 1.3 in (3 cm).
ii) A rectangle with a length of 0.8 in (2 cm) and a width of 1.3 in (3 cm).

Perimeter: _____
Area: _____

- iii) A square with sides all equal to 1 in (2.5 cm).
iv) A parallelogram with all sides equal to 1.3 in (3 cm) and a height of 0.9 in (2.3 cm).

Perimeter: _____
Area: _____

- v) An equilateral triangle with a side of 0.8 in (2 cm) and a height of 0.7 in (1.7 cm).
vi) A rectangle with a length of 1.6 in (4 cm) and a width of 1 in (2.5 cm).

Perimeter: _____
Area: _____

- vii) An isosceles triangle with two congruent sides of your choice and height of your choice.
viii) A rectangle where the length is 2 times the width. You may choose the measurements.

Perimeter: _____
Area: _____



Drill Sheet 1

Conversions

- a) 1.5 m = _____ cm 27 ft = _____ yards 180 in = _____ ft
 2.5 oz = _____ lbs 2.5 g = _____ mg 25 ton = _____ lbs
 4 cups = _____ pints 330 L = _____ kL 2 gallons = _____ quarts
 18 ft = _____ yds 2.5 km = _____ m 27 yd = _____ in

Area and Perimeter

Look carefully at the three figures below. Calculate the area and perimeter using the measurements provided.



- b) Area: _____ c) Area: _____ d) Area: _____
 Perimeter: _____ Perimeter: _____ Perimeter: _____

Short Answers

- e) What is the volume of a tank with a length of 4 feet (1 meter), width of 5 feet (2 meters), and a height of 3 feet (0.9 meters)?
 f) What temperature is 20° below the boiling point on the Fahrenheit (Celsius) scale?
 g) An angle that is four-fifths the size of a right triangle would be this many degrees.
 h) What is the formula for finding the area of a circle?
 i) How many meters (feet) are in a 5 km (3 mile) race?



Review A

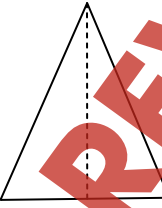
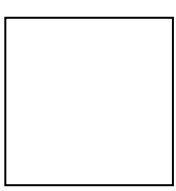
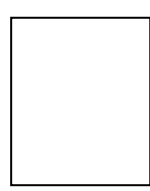
a) Convert the following measurements.

- i) 20 ft = _____ in ii) 480 mm = _____ cm iii) 176 oz = _____ lbs
 iv) 500 m = _____ km v) 72 ft = _____ yd vi) 7.5 kL = _____ L
 vii) 128 qts = _____ gallons viii) 2.5 m = _____ cm ix) 45 ft = _____ yd
 x) 7 km = _____ mm xi) 4.5 cup = _____ pt xii) 12 L = _____ mL
 xiii) 18.5 ft = _____ in xiv) 29.7 g = _____ mg xv) 25 lbs = _____ oz

b) Answer the following quick measurement questions.

- i) Jaime measured the temperature of a warm liquid. The temperature started at 72°F (22°C) and dropped 2.5 degrees every minute for three minutes. What was the temperature of the liquid after 3 minutes?
 ii) A rectangle had an area of 2.5 square inches (16 square cm). What are two possible combinations for the length and width of the rectangle?
 iii) Tyrone ran a 5 mile (8 km) race. How many total feet (meters) did he run?
 iv) If a car weighs 2.5 tons, how many pounds (kilograms) does it weigh?
 v) A triangle has a base of 6 inches (150 mm) and a height of 1 inch (25.5 mm). What is the area of the triangle?
 vi) What is the perimeter of a square with a side measuring 3.5 inches (9 cm)?

c) Use a ruler to measure the objects below. Find the area for each object.

- i)  ii)  iii) 
 Area = _____ Area = _____ Area = _____



Review B


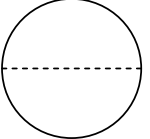
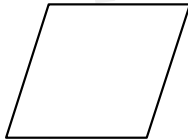
a) Convert the following measurements.

- i) 2.57 cm = _____ mm ii) 4.5 ft = _____ in iii) 12.5 gal = _____ cups
 iv) 5.5 km = _____ cm v) 24 oz = _____ lbs vi) 0.5 kL = _____ L
 vii) 138 in = _____ ft viii) 175 mm = _____ cm ix) 30 qt = _____ gallons
 x) 19.27 mg = _____ g xi) 28.5 oz = _____ lbs xii) 29.25 kg = _____ g
 xiii) 22.5 ft = _____ in xiv) 0.025 kL = _____ L xv) 2.5 tons = _____ oz

b) Answer the following quick measurement questions.

- i) Carlos measured the temperature on a cold winter day at -3°F. What was the temperature in Celsius?
 ii) A regular pentagon has a perimeter of 12 inches (30.5 cm). What is the measure of each side?
 iii) Dionne weighed herself and determined she was 85.25 pounds (38.67 kilograms). How many ounces (grams) did she weigh?
 iv) Wan took a car trip with his family. They traveled close to 158.5 miles (255 km) before arriving at their destination after three days. What was the average amount of miles (km) they traveled each day?
 v) A box has a length of 3 inches (8 cm), width of 2 inches (5 cm), and a height of 2.5 inches (7 cm). What is the volume of the box?

c) Use a ruler to measure the objects below. Find the perimeter or circumference for each object.

- i)  ii)  iii) 
 Perimeter = _____ Circumference = _____ Perimeter = _____

Surface Area of a Rectangular Prism

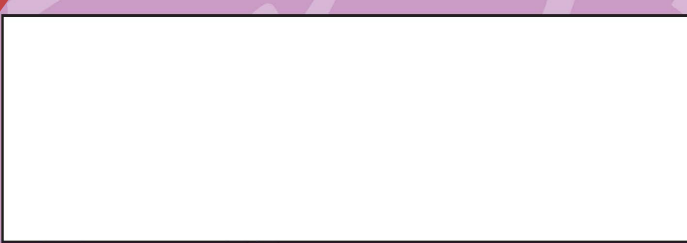
Obtain a box or other rectangular prism. Working alone or in a small group, devise a plan to determine the surface area of the box without measuring any of the sides.



Then, do the following.

1. Explain your plan.

2. Test your plan. Did it work? _____
3. Take measurements of your box. Make sure to identify the main measurements needed for your box. _____
4. Calculate the surface area of the box. _____
5. Compare the surface area you determined by your calculations to the surface area you determined by using your plan. _____
6. Write your findings in a well organized paragraph.

7. Draw a diagram of your box. Label all of the essential measurements you took to determine the surface area.


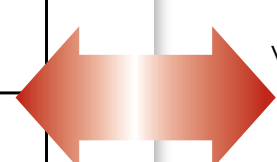
NAME: _____



9a) Listed below in the first column are the formulas that are used to determine the area, surface area, or perimeter of different shapes. Write the shape that each formula represents in the second column. Then, using a ruler, draw a sample of each shape using inches or centimeters. Determine the area or perimeter for each shape you draw.

Formula	Shape it may represent	Sample Shape	Area	Perimeter
Ex: $P = 4 \text{ side}$	Square		$A = s^2$ $A = (0.8 \text{ in}/2 \text{ cm})^2$ $A = 0.64 \text{ sq. in}/$ 4 sq. cm	$P = 4 (0.8 \text{ in}/2 \text{ cm})$ $P = 3.2 \text{ in}/8 \text{ cm}$
i) $A = \frac{1}{2} b \times h$				
ii) $P = 3s$				
iii) $A = l \times w$				
iv) $P = 5s$				
v) $A = \pi r^2$				
vi) $P = 2l + 2w$				
vii) $A = s^2$				
viii) $P = 6s$				
ix) $A = 6a^2$				

EASY MARKING



9.

a)

- i) Triangle or Parallelogram
- ii) Triangle
- iii) Quadrilateral
- iv) Pentagon
- v) Circle
- vi) Quadrilateral
- vii) Square
- viii) Hexagon
- ix) Cube

Shapes will vary.
Areas and Perimeters will vary.

37

10.

a)

- i) Perimeter = 5.2 in (12 cm), Area = 1.69 sq in (9 sq cm)
- ii) Perimeter = 4.2 in (10 cm), Area = 1.04 sq in (6 sq cm)
- iii) Perimeter = 4 in (10 cm), Area = 1 sq in (6.25 sq cm)
- iv) Perimeter = 5.2 in (12 cm), Area = 4.4 sq in (10.6 sq cm)
- v) Perimeter = 3 in (7.4 cm), Area = 0.28 sq in (1.7 sq cm)
- vi) Perimeter = 5.2 in (13 cm), Area = 1.6 sq in (10 sq cm)
- vii) Answers will vary.
- viii) Answers will vary.

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11.

Answers may vary.

39

12.

a)

- i) 12 ft = 144 in
- ii) 0.5 yd = 1.5 ft
- iii) 72 in = 2 yds
- iv) 7.5 ft = 2.5 yds
- v) 2.5 yds = 90 in
- vi) 21 ft = 252 in
- vii) 78 in = 6.5 ft
- viii) 30 yds = 1080 in
- ix) 3.3 yd = 118.8 in
- x) 42 in = 3.5 ft
- xi) 16 in = 1.3 ft
- xii) 26.5 yds = 79.5 ft
- xiii) 3 m = 3,000 mm
- xiv) 2.5 cm = 250 mm
- xv) 19 cm = 190 mm
- xvi) 14 m = 1400 cm
- xvii) 855 mm = 0.855 m
- xviii) 9.5 cm = 0.095 m
- xix) 326 mm = 32.6 cm
- xx) 29 cm = 290 mm
- xxi) 25 cm = 0.25 m
- xxii) 1890 mm = 189 cm

40

13.

a)

- i) 22 sq in (137.5 sq cm)
- ii) 184 sq in (1150 sq cm)
- iii) 192 sq in (1200 sq cm)
- iv) 117 sq in (765 sq cm)
- v) 324 sq in (2025 sq cm)
- vi) 9.5 sq in (58 sq cm)
- vii) 1398 sq in (8969 sq cm)
- viii) 27 sq in (175 sq cm)
- ix) 802 sq in (5118 sq cm)
- x) 300 sq in (1924 sq cm)
- xi) 216 sq in (1350 sq cm)
- xii) 192 sq in (1200 sq cm)
- xiii) 304 sq in (1900 sq cm)
- xiv) 52 sq in (325 sq cm)
- xv) 365 sq in (2334 sq cm)
- xvi) 51.5 sq in (328 sq cm)
- xvii) 5.5 sq in (33 sq cm)
- xviii) 351 sq in (2250 sq cm)
- xix) 184.5 sq in (1148 sq cm)
- xx) 220 sq in (1387.5 sq cm)

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