Name _____ Date _____ Period _____

LESSON 5-1 · HOMEWORK PACKET · SHEET 1 OF 2

Area of Parallelograms

Maryland Standard 6.G.A.1 · Learning target – I can find the area of a parallelogram by multiplying the base by the perpendicular height.

REMEMBER

- Cut a triangle off a parallelogram and slide it over to make a rectangle: **A = b × h**.
- The height *h* is **perpendicular** to the base. Do not use the slanted side.
- Area is in **square units** (cm², in², ft²).

WORKED EXAMPLE

Find the area: base 15 in, slanted side 8 in, height 6 in.

Step 1 Use the perpendicular height: h = 6 (skip the 8 in side)

Step 2 A = b × h = 15 × 6

Step 3 Multiply: 15 × 6 = 90

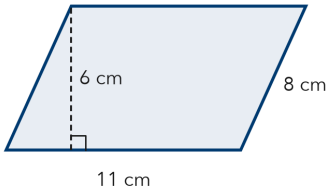
Answer **90 in²**

PRACTICE

show your work · label units

1. Find the area of the parallelogram.

Show your work.



Answer _____ cm²

2. Find the area of each parallelogram with base *b* and height *h*.

a. b = 12 ft, h = 7 ft _____ ft²

b. b = 9 m, h = 9 m _____ m²

c. b = 20 in, h = 4 in _____ in²

d. A = 63 m², h = 7 m; b = _____ m

3. **Parking Lot.** A lot has 10 parking spaces. Each space is a parallelogram with a base of 9 ft and a perpendicular height of 18 ft. What total area do the spaces cover?

Show your work.

Answer _____ ft²

4. **Mural.** A mural is painted on a parallelogram-shaped wall section. The area is 108 ft² and the base is 12 ft. What is the perpendicular height?

Answer _____ ft

5. **Find the Error.** A parallelogram has a base of 10 cm, a slanted side of 7 cm, and a height of 5 cm. Kiara says its area is 70 cm². Explain her mistake and find the correct area.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Find a parallelogram shape at home or on the street (a tile, a sign, a parking space). Show someone where its base and height are.

Name _____ Date _____ Period _____

LESSON 5-1 · HOMEWORK PACKET · SHEET 2 OF 2

Area of Rhombuses

Maryland Standard 6.G.A.1 · Learning target – I can find the area of a rhombus using the base and height or the two diagonals.

REMEMBER

- A rhombus is a parallelogram, so **A = b × h** works.
- With the **diagonals**: **A = (d1 × d2) ÷ 2**. Do not forget to divide by 2.

WORKED EXAMPLE

Find the area: diagonals 12 cm and 9 cm.

Step 1 Multiply the diagonals: 12 × 9 = 108

Step 2 Divide by 2: 108 ÷ 2 = 54

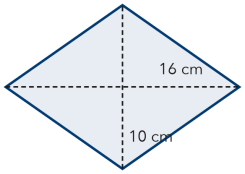
Answer **54 cm²**

PRACTICE

show your work · label units

1. Find the area of the rhombus.

Show your work.

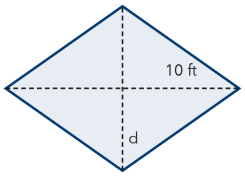


Answer _____ cm²

2. Find the area of each rhombus. Choose the formula that fits.

a. diagonals 14 m and 10 m _____ m² **b.** base 9 ft, height 7 ft _____ ft²

3. Window. A rhombus window has an area of 60 ft². One diagonal is 10 ft. Find the other diagonal *d*.



Answer _____ ft

4. Stretch. Rhombus A has diagonals of 12 ft and 8 ft. Rhombus B has a base of 8 ft and the same area as Rhombus A. What is the height of Rhombus B?

Answer _____ ft

5. Find the Error. Ravi says a rhombus with diagonals of 18 in and 8 in has an area of 144 in². Explain his mistake and find the correct area.

_____

_____

TEST PRACTICE

choose the best answer

6. A rhombus has sides of 7 m and a perpendicular height of 5 m. What is its area?

A 12 m² **B** 17.5 m² **C** 35 m² **D** 49 m²

7. A rhombus has diagonals of 20 in and 9 in. What is its area?

A 29 in² **B** 45 in² **C** 90 in² **D** 180 in²

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

Name _____ Date _____ Period _____

LESSON 5-2 · HOMEWORK PACKET · SHEET 1 OF 2

Area of Triangles

Maryland Standard 6.G.A.1 · Learning target – I can find the area of a triangle using one half the base times the height.

REMEMBER

- A triangle is half of a parallelogram with the same base and height: **A = ½ × b × h**.
- The height meets the base at a right angle. It can fall **outside** the triangle.
- Area is in **square units** (cm², in², ft²).

WORKED EXAMPLE

Find the area of a triangle with base 14 cm and height 9 cm.

Step 1 Write the formula: A = ½ × b × h

Step 2 Substitute: A = ½ × 14 × 9

Step 3 Multiply: ½ × 14 = 7, and 7 × 9 = 63

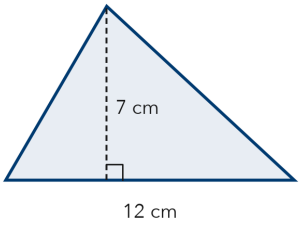
Answer 63 cm²

PRACTICE

show your work · label units

1. Find the area of the triangle.

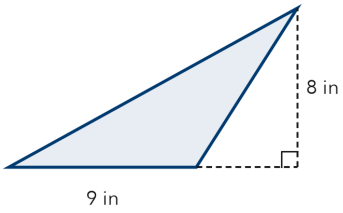
Show your work.



Answer _____ cm²

2. Find the area of the triangle. The height falls outside the triangle.

Show your work.



Answer _____ in²

3. Find the area of each triangle with base *b* and height *h*.

a. b = 10 cm, h = 9 cm _____ cm²

b. b = 5 ft, h = 11 ft _____ ft²

4. Garden Bed. Maya builds a triangular garden bed with a base of 15 feet and a height of 6 feet. One bag of soil covers 9 square feet. How many bags does she need?

Show your work.

Answer _____ bags

5. Find the Error. Jon says the area of a triangle with base 8 m and height 5 m is 40 m². Explain his mistake and find the correct area.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Find a triangle at home (a sign, a sandwich half, a roof). Estimate its base and height and its area.

Name _____ Date _____ Period _____

LESSON 5-2 · HOMEWORK PACKET · SHEET 2 OF 2

Missing Measures in Triangles

Maryland Standard 6.G.A.1 · Learning target – I can find a missing base or height of a triangle when I know its area.

REMEMBER

- Know the area and one measure? **Double the area**, then divide by the measure you know: **h = 2A ÷ b** and **b = 2A ÷ h**.
- Check: ½ × b × h should equal the given area.

WORKED EXAMPLE

Area = 30 in², base = 12 in. Find the height.

Step 1 Double the area: 2 × 30 = 60

Step 2 Divide by the base: 60 ÷ 12 = 5

Step 3 Check: ½ × 12 × 5 = 30, so it checks

Answer **h = 5 in**

PRACTICE

show your work · label units

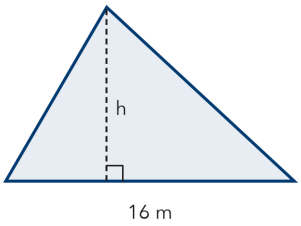
1. Complete the table. Each row describes one triangle.

	Base	Height	Area
Triangle A	8 in		28 in²
Triangle B		9 ft	54 ft²

2. The area of the triangle is 48 m². Find the height *h*.

Show your work.

Answer _____ m



3. Find the missing measure of each triangle.

a. A = 40 m², b = 10 m; h = _____ m

b. A = 27 in², h = 6 in; b = _____ in

4. **Sail.** A triangular sail has an area of 35 square feet. Its height is 10 feet. How long is its base?

Answer _____ ft

5. **Compare.** Triangle P: base 12 cm, height 5 cm. Triangle Q: base 6 cm, height 10 cm. Which has more area? Explain.

_____

_____

TEST PRACTICE

choose the best answer

6. A triangle has an area of 24 square units and a height of 4 units. What is the length of its base?

A 3 units **B** 6 units **C** 12 units **D** 48 units

7. Which expression gives the area of a triangle with base 18 m and height 5 m?

A 18 × 5 **B** ½ × 18 × 5 **C** 18 + 5 **D** 2 × 18 × 5

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

Name _____ Date _____ Period _____

LESSON 5-3 · HOMEWORK PACKET · SHEET 1 OF 2

Trapezoids by Decomposing

Maryland Standard 6.G.A.1 · Learning target – I can find the area of a trapezoid by decomposing it into a rectangle and triangles.

REMEMBER

- **Decompose** a trapezoid into a rectangle and one or two triangles.
- Find the area of each piece, then **add** the areas.
- When you cut off a rectangle, the triangle bases together equal the **difference** of the two parallel sides.

WORKED EXAMPLE

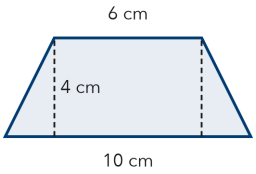
Parallel sides 6 m and 12 m, height 5 m. Find the area.

Step 1 Rectangle: 6 × 5 = 30
Step 2 Triangle bases: (12 − 6) ÷ 2 = 3 m each
Step 3 Triangles: 2 × (½ × 3 × 5) = 15
Step 4 Add: 30 + 15 = 45
Answer **45 m²**

PRACTICE

show your work · label units

1. The trapezoid is cut into a rectangle and two matching triangles.

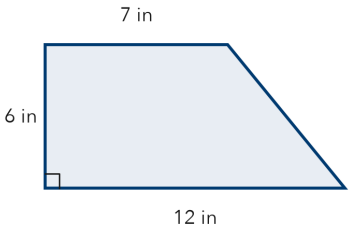


a. Area of the rectangle _____ cm²

b. Area of one triangle _____ cm²

Area of trapezoid _____ cm²

2. Decompose the trapezoid into a rectangle and one triangle. Find its area.



Show your work.

Answer _____ in²

3. Skate Ramp. The side of a skate ramp is a trapezoid with one square corner. Its parallel sides are 3 ft and 8 ft, and its height is 4 ft. Find the area by decomposing.

Show your work.

Answer _____ ft²

4. Table Top. A table top is a trapezoid with parallel sides of 5 ft and 11 ft and a height of 3 ft. It is cut into a rectangle and two matching triangles. Find its area.

Answer _____ ft²

5. Find the Error. A trapezoid has parallel sides 9 cm and 15 cm and height 4 cm. Tomás says each of its 2 matching triangles has a base of 6 cm. Explain his mistake and find the area.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Find a trapezoid shape at home or outside (a lampshade side, a bag, a roof). Show someone how to cut it into a rectangle and triangles.

Name _____ Date _____ Period _____

LESSON 5-3 · HOMEWORK PACKET · SHEET 2 OF 2

The Trapezoid Area Formula

Maryland Standard 6.G.A.1 · Learning target – I can find the area of a trapezoid using the trapezoid area formula.

REMEMBER

- **A = ½ × (b1 + b2) × h**. The bases b1 and b2 are the **parallel** sides.
- Add the bases first, then multiply by the height *h*, then take half.

WORKED EXAMPLE

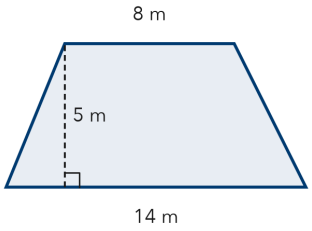
Parallel sides 7 cm and 11 cm, height 6 cm. Find the area.

Step 1 Add the bases: 7 + 11 = 18
Step 2 Multiply by the height: 18 × 6 = 108
Step 3 Take half: 108 ÷ 2 = 54
Answer **54 cm²**

PRACTICE

show your work · label units

1. Find the area of the trapezoid.



Show your work.

Answer _____ m²

2. Find the area of each trapezoid with bases b1 and b2 and height *h*.

a. 4 ft, 10 ft; h = 6 ft _____ ft²

b. 5 in, 9 in; h = 8 in _____ in²

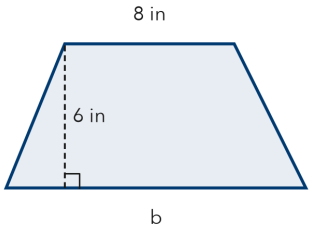
c. 6 m, 12 m; h = 3 m _____ m²

d. 3 cm, 7 cm; h = 9 cm _____ cm²

3. **Garden Plot.** A garden plot is a trapezoid with parallel sides of 16 ft and 24 ft and a height of 10 ft. One bag of mulch covers 25 ft². How many bags are needed?

Answer _____ bags

4. **Missing Base.** The area of the trapezoid is 60 in². Find the missing base *b*.



Show your work.

Answer _____ in

TEST PRACTICE

choose the best answer

5. A trapezoid has parallel sides of 6 cm and 10 cm and a height of 5 cm. What is its area?

A 21 cm² **B** 40 cm² **C** 80 cm² **D** 300 cm²

6. Which expression finds the area of a trapezoid with bases 3 m and 9 m and height 4 m?

A ½ × 3 × 9 × 4 **B** (3 + 9) × 4 **C** ½ × (3 + 9) × 4 **D** ½ × 3 + 9 × 4

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Measure a trapezoid shape at home, like the side of a bag. Estimate its area with the formula.

Name _____ Date _____ Period _____

LESSON 5-4 · HOMEWORK PACKET · SHEET 1 OF 2

Area of Regular Polygons

Maryland Standard 6.G.A.1 · Learning target – I can find the area of a regular polygon by finding the area of one triangle and multiplying.

REMEMBER

- **Regular polygon**: equal sides, equal angles.
- Lines from the center to each vertex make *n* **congruent triangles**. Each one's height is the **apothem**.
- **A = n × (½ × side × apothem)**. Use ≈ if rounded.

WORKED EXAMPLE

Regular hexagon: side 8 cm, apothem ≈ 6.9 cm.

Step 1 A hexagon makes 6 congruent triangles.

Step 2 One triangle: ½ × 8 × 6.9 = 27.6

Step 3 Six triangles: 6 × 27.6 = 165.6

Answer ≈ 165.6 cm²

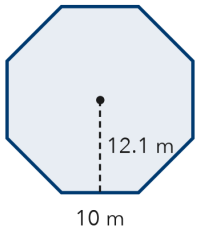
PRACTICE

show your work · label units

1. Find the area of the regular octagon. The apothem is rounded.

Show your work.

Answer _____ m²



2. Complete the table. Each apothem is rounded, so mark each area with ≈.

Regular polygon	Side	Apothem	Perimeter	Area
Hexagon	4 cm	3.5 cm		
Pentagon	10 ft	6.9 ft		

3. Each regular polygon has perimeter *P* and rounded apothem *a*. Find each area. Mark it with ≈.

a. pentagon: P = 30 cm, a ≈ 4.1 cm ____ cm² **b.** hexagon: P = 60 ft, a ≈ 8.7 ft ____ ft²

4. **Gazebo Floor.** A gazebo floor is a regular hexagon with sides of 6 ft and an apothem of about 5.2 ft. Tile costs $3 per square foot. About how much will the tile cost?

Show your work.

Answer _____

5. **Find the Error.** Andre says a regular pentagon with sides of 8 cm and an apothem of 5.5 cm has area ½ × 8 × 5.5 = 22 cm². Explain his mistake and find the area.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

Name _____ Date _____ Period _____

LESSON 5-4 · HOMEWORK PACKET · SHEET 2 OF 2

Composite Figures

Maryland Standard 6.G.A.1 · Learning target – I can find the area of a composite figure by adding or subtracting the areas of simpler shapes.

REMEMBER

- A **composite figure** is made of simpler shapes.
- **Add** the areas of joined shapes. **Subtract** a piece that is cut out.
- Use the sides you know to find missing sides.

WORKED EXAMPLE

House front: a 10 ft × 6 ft rectangle with a triangular roof on top. The roof's base is 10 ft and it is 4 ft tall.

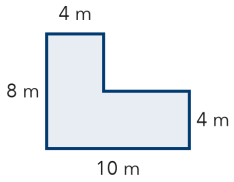
Step 1 Rectangle: 10 × 6 = 60
Step 2 Triangle: ½ × 10 × 4 = 20
Step 3 The shapes are joined, so add: 60 + 20 = 80
Answer **80 ft²**

PRACTICE

show your work · label units

1. Find the area of the L-shaped figure. All corners are right angles.

Show your work.

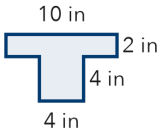


Answer _____ m²

2. Write **add** or **subtract** to tell how you would find each area.

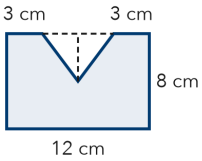
a. a wall, not counting its window: _____ **b.** a bedroom plus its closet: _____

3. Find the area of the T-shaped figure. All corners are right angles.



Answer _____ in²

4. A triangle notch 4 cm deep is cut from the top of a rectangle. Find the area that is left.



Answer _____ cm²

5. **Backyard.** A yard is a rectangle 20 ft by 12 ft. A square garden 5 ft on each side sits in one corner and will not be paved. Find the paved area.

Answer _____ ft²

TEST PRACTICE

choose the best answer

6. A rectangle 9 m by 6 m has a square 2 m by 2 m cut out. What area is left?

A 50 m² **B** 58 m² **C** 54 m² **D** 13 m²

7. A 10 in by 4 in rectangle is joined to a triangle with base 4 in and height 3 in. What is the total area?

A 34 in² **B** 40 in² **C** 46 in² **D** 52 in²

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

Name _____ Date _____ Period _____

LESSON 5-5 · HOMEWORK PACKET · SHEET 1 OF 2

Volume of Rectangular Prisms

Maryland Standard 6.G.A.2 · Learning target – I can find the volume of a rectangular prism by multiplying length, width, and height.

REMEMBER

- **Volume** counts the unit cubes that fill a solid. Use **cubic units** (cm³, in³, ft³).
- **V = l × w × h**, or **V = B × h**, where *B* is the area of the base.

WORKED EXAMPLE

A box is 7 cm long, 3 cm wide, and 5 cm tall.

Step 1 One layer of cubes: B = 7 × 3 = 21

Step 2 Stack 5 layers: 21 × 5 = 105

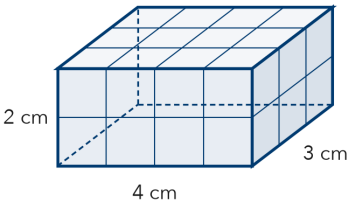
Answer 105 cm³

PRACTICE

show your work · label units

1. Each small cube is 1 cm³. Find the volume of the prism.

Show your work.



Answer _____ cm³

2. Find the volume of each rectangular prism.

a. 8 in × 5 in × 2 in _____ in³

b. 10 cm × 10 cm × 4 cm _____ cm³

c. 6 ft × 6 ft × 6 ft _____ ft³

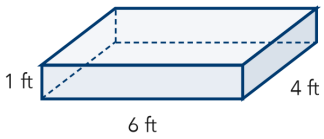
d. B = 45 m², h = 7 m _____ m³

e. 12 m × 3 m × 5 m _____ m³

f. B = 32 in², h = 9 in _____ in³

3. Sandbox. A sandbox is 6 ft long, 4 ft wide, and 1 ft deep. One bag of sand fills 2 ft³. How many bags fill the sandbox?

Show your work.



Answer _____ bags

4. Fish Tank. A fish tank is 20 in long and 10 in wide. It holds 3,000 in³ of water when full. How tall is the tank?

Answer _____ in

5. Compare. Box A is 6 in × 4 in × 2 in. Box B is 3 in × 4 in × 4 in. Mika says Box A holds more because it is longer. Is she right? Explain.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Find a box at home. Measure or estimate its length, width, and height, and find its volume.

Name _____ Date _____ Period _____

LESSON 5-5 · HOMEWORK PACKET · SHEET 2 OF 2

Missing Fractional Edges

Maryland Standard 6.G.A.2 · Learning target – I can find a missing edge of a prism and find volumes with fractional edge lengths.

REMEMBER

- **V = l × w × h** works with fractions too. Write mixed numbers as fractions first.
- Missing edge: **divide** the volume by the product of the other two edges.

WORKED EXAMPLE

A box is 2 ½ ft × 2 ft × 1 ½ ft. Find its volume.

Step 1 Write as fractions: 5/2 × 2/1 × 3/2

Step 2 Multiply: (5 × 2 × 3)/(2 × 1 × 2) = 30/4

Step 3 Simplify: 30/4 = 7 ½

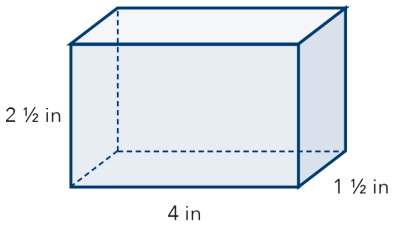
Answer **7 ½ ft³**

PRACTICE

show your work · label units

1. Find the volume of the prism.

Show your work.



Answer _____ in³

2. Find each volume.

a. ½ ft × 6 ft × 8 ft _____ ft³

b. 3 ½ m × 2 m × 4 m _____ m³

c. 2 ½ cm × 4 cm × 3 cm _____ cm³

d. 1 ½ in × 1 ½ in × 4 in _____ in³

e. 4 ft × ½ ft × 5 ft _____ ft³

f. 6 cm × 1 ½ cm × 3 cm _____ cm³

3. **Planter.** A planter box is 3 ft long and 1 ½ ft wide. It holds 9 ft³ of soil when full. How deep is it?

Answer _____ ft

4. **Small Cubes.** A box is 2 in long, 1 in wide, and 1 ½ in tall. It is packed with cubes that are ½ in on each edge.

a. How many cubes fill the box? _____

b. Each cube is 1/8 in³. What is the volume of the box? _____ in³

TEST PRACTICE

choose the best answer

5. A box is 5 in long, 2 in wide, and 1 ½ in tall. What is its volume?

A 8 ½ in³ **B** 10 in³ **C** 15 in² **D** 15 in³

6. A prism has a volume of 96 ft³. Its base is 4 ft by 6 ft. What is its height?

A 4 ft **B** 16 ft **C** 24 ft **D** 576 ft

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Find a box at home with a fraction edge (like 2 ½ in). Estimate its volume.

Name _____ Date _____ Period _____

LESSON 5-6 · HOMEWORK PACKET · SHEET 1 OF 2

Drawing Nets of Solids

Maryland Standard 6.G.A.4 · Learning target – I can draw the net of a solid by unfolding its faces onto a flat surface.

REMEMBER

- A **net** is a flat pattern that folds into a solid. Each face appears **once**, with no overlaps.
- **Rectangular prism**: 6 rectangles. **Square pyramid**: 1 square + 4 triangles. **Triangular prism**: 2 triangles + 3 rectangles.

WORKED EXAMPLE

Plan a net for a box 5 cm × 3 cm × 2 cm.

Step 1 Faces come in pairs: 5 × 3, 5 × 2, 3 × 2

Step 2 Draw the 5 × 3 base. Attach a 5 × 2 face to each long edge.

Step 3 Attach a 3 × 2 face to each short edge. Add the 5 × 3 top to one 5 × 2 face.

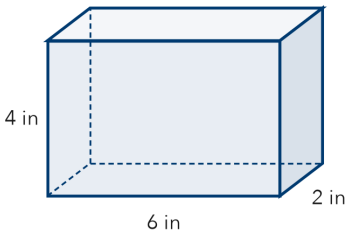
Answer **6 rectangles, two of each size**

PRACTICE

show your work · label units

1. Draw a net for this box. Label the length and width of every face.

Draw the net here.



Face sizes _____

2. How many of each shape are in the net?

a. cube: squares ___

b. square pyramid: triangles ___

c. triangular prism: rectangles ___

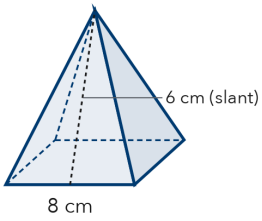
d. pentagonal pyramid: triangles ___

3. The net of this square pyramid has a square and 4 triangles.

a. Area of the square _____ cm²

b. Area of one triangle _____ cm²

All 4 triangles _____ cm²



4. **Cereal Box.** A cereal box is 8 in long, 3 in wide, and 12 in tall. List the sizes of the 3 pairs of matching faces in its net.

Face pairs _____

5. **Will It Fold?** Jamal draws 6 squares in one long row and says it is a net for a cube. Is he right? Explain.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Open an empty cereal box along its edges. Show someone its net.

Name _____ Date _____ Period _____

LESSON 5-6 · HOMEWORK PACKET · SHEET 2 OF 2

Reading Nets and Solids

Maryland Standard 6.G.A.4 · Learning target – I can name the solid a net makes by reading the shapes in the net.

REMEMBER

- **Prism**: 2 matching bases + rectangles. **Pyramid**: 1 base + triangles that meet at a point.
- The **base shape** names the solid (triangular, square, pentagonal …).

WORKED EXAMPLE

A net has 1 hexagon and 6 triangles.

Step 1 One base with triangles around it means a pyramid.

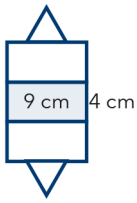
Step 2 The base is a hexagon.

Answer **hexagonal pyramid**

PRACTICE

show your work · label units

1. Look at the net.



a. Solid: _____

b. Number of faces: ___

2. Name the solid each net makes.

a. 1 rectangle + 4 triangles: _____

b. 2 hexagons + 6 rectangles: _____

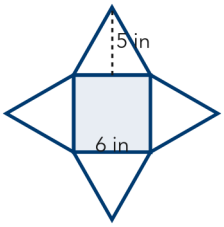
c. 2 triangles + 3 rectangles: _____

d. 1 pentagon + 5 triangles: _____

e. 6 squares: _____

f. 2 pentagons + 5 rectangles: _____

3. This net folds into a square pyramid.



a. Area of the base: _____ in²

b. Area of all 4 triangles: _____ in²

4. **Mystery Box.** A net has 2 squares, 4 cm on each side, and 4 rectangles, 4 cm × 9 cm. Name the solid and its dimensions.

Answer _____

TEST PRACTICE

choose the best answer

5. A triangular prism has 5 faces. How many edges does it have?

A 5 **B** 6 **C** 9 **D** 12

6. How many faces does a hexagonal pyramid have?

A 6 **B** 7 **C** 8 **D** 12

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Find a box at home. Tell someone what shapes its net would have and how many of each.

Name _____ Date _____ Period _____

LESSON 5-7 · HOMEWORK PACKET · SHEET 1 OF 2

Surface Area of Rectangular Prisms

Maryland Standard 6.G.A.4 · Learning target – I can find the surface area of a rectangular prism by adding the areas of its six faces.

REMEMBER

- **Surface area** is the total area of all the faces, in **square units**.
- A rectangular prism has 3 pairs of matching faces: **SA = 2lw + 2lh + 2wh**.

WORKED EXAMPLE

A box is 8 in × 3 in × 2 in. Find its surface area.

Step 1 One face from each pair: 8 × 3 = 24, 8 × 2 = 16, 3 × 2 = 6

Step 2 Add: 24 + 16 + 6 = 46

Step 3 Each face has a twin, so double: 2 × 46 = 92

Answer **92 in²**

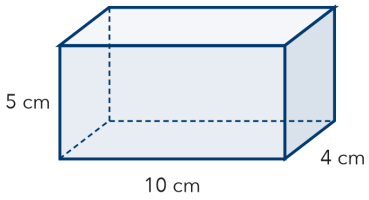
PRACTICE

show your work · label units

1. Find the surface area of the prism.

Show your work.

Answer _____ cm²



2. Find the surface area of each solid.

a. cube, edges 3 cm _____ cm²

b. cube, edges 10 ft _____ ft²

c. prism 4 m × 2 m × 1 m _____ m²

d. prism 5 in × 5 in × 2 in _____ in²

e. cube, edges 5 in _____ in²

f. prism 6 cm × 3 cm × 2 cm _____ cm²

3. **Gift Box.** Nadia wraps a box that is 12 in long, 8 in wide, and 4 in tall. Her paper covers 400 in². Is that enough to cover the box? Explain.

Show your work.

Answer _____

4. **Toy Chest.** A toy chest is 4 ft long, 2 ft wide, and 3 ft tall. Leo paints all faces but the bottom. How many ft² does he paint?

Answer _____ ft²

5. **Find the Error.** Diego says the surface area of a cube with 2 cm edges is 8 cm² because 2 × 2 × 2 = 8. Explain his mistake and find the surface area.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Pick a box at home. Point to each pair of matching faces and tell someone how you would find its surface area.

Name _____ Date _____ Period _____

LESSON 5-7 · HOMEWORK PACKET · SHEET 2 OF 2

Surface Area of Triangular Prisms

Maryland Standard 6.G.A.4 · Learning target – I can find the surface area of a triangular prism using its net.

REMEMBER

- A triangular prism has **2 triangle bases** and **3 rectangles**.
- Each rectangle is one side of the triangle × the prism's length. Add all **5 faces**.

WORKED EXAMPLE

Prism 10 cm long. Ends are right triangles with sides 3, 4, 5 cm.

Step 1 Triangles: 2 × (½ × 3 × 4) = 12

Step 2 Rectangles: 30 + 40 + 50 = 120

Step 3 Add: 12 + 120 = 132

Answer 132 cm²

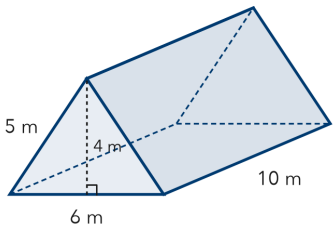
PRACTICE

show your work · label units

1. Find the surface area. The triangle ends have sides 5 m, 5 m, and 6 m.

Show your work.

Answer _____ m²



2. Find each area.

a. 2 triangles, base 8 ft, height 3 ft: _____ ft² **b.** 1 rectangle, 5 ft by 9 ft: _____ ft²

3. Tent. A tent is a triangular prism 9 ft long. Each end is a triangle with base 8 ft, height 3 ft, and two 5 ft sides. Find the fabric needed for all 5 faces, including the floor.

Answer _____ ft²

4. Doorstop. A wooden doorstop is a triangular prism 4 in long. Its ends are right triangles with sides 5 in, 12 in, and 13 in. Find its surface area.

Answer _____ in²

5. Find the Error. For the prism in Exercise 1, Lucas found the rectangles as 6 × 10, 4 × 10, and 4 × 10. Explain his mistake.

_____

_____

TEST PRACTICE

choose the best answer

6. Triangle ends: 9 cm² each. Rectangles: 20, 20, and 24 cm². What is the surface area?

A 64 cm² **B** 73 cm² **C** 82 cm² **D** 146 cm²

7. A prism is 8 cm long. Its triangle ends have sides 6, 8, and 10 cm. What is the total area of the 3 rectangles?

A 24 cm² **B** 192 cm² **C** 240 cm² **D** 480 cm²

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

Name _____ Date _____ Period _____

LESSON 5-8 · HOMEWORK PACKET · SHEET 1 OF 2

Surface Area of Pyramids

Maryland Standard 6.G.A.4 · Learning target – I can find the surface area of a pyramid by adding the base area and the areas of its triangular faces.

REMEMBER

- SA of a pyramid = **base area** + area of all the **triangular faces**.
- Each triangle's height is the **slant height**, not the height of the pyramid.

WORKED EXAMPLE

Square pyramid: base 8 cm, slant height 7 cm.

Step 1 Base: 8 × 8 = 64

Step 2 One triangle: ½ × 8 × 7 = 28; four: 112

Step 3 Add: 64 + 112 = 176

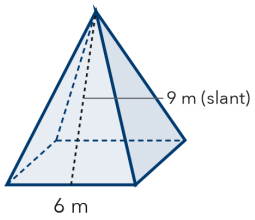
Answer **176 cm²**

PRACTICE

show your work · label units

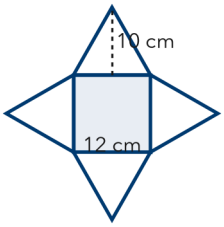
1. Find the surface area of the square pyramid.

Show your work.



Answer _____ m²

2. Use the net of the square pyramid.



a. Area of the base _____ cm²

b. Area of one triangle _____ cm²

Surface area _____ cm²

3. Find the surface area of each square pyramid.

a. base 4 in, slant height 5 in _____ in²

b. base 10 cm, slant height 12 cm _____ cm²

4. **Gift Box.** A gift box is a square pyramid with a base 9 in on each side and a slant height of 11 in. How much paper covers every face?

Show your work.

Answer _____ in²

5. **Find the Error.** A square pyramid has a base 6 ft on each side, a height of 4 ft, and a slant height of 5 ft. Kofi wrote SA = 36 + 4 × (½ × 6 × 4) = 84 ft². Explain his mistake and find the surface area.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Use a folded paper tent to show someone a pyramid's height and its slant height.

Name _____ Date _____ Period _____

LESSON 5-8 · HOMEWORK PACKET · SHEET 2 OF 2

Lateral Area of Pyramids

Maryland Standard 6.G.A.4 · Learning target – I can find the lateral area of a pyramid, which covers only its slanted faces.

REMEMBER

- **Lateral area** is the area of the slanted faces only. Do **not** include the base.
- Lateral area = surface area − base area.

WORKED EXAMPLE

Square pyramid: base 10 m, slant height 13 m. Find the lateral area.

Step 1 One face: ½ × 10 × 13 = 65

Step 2 Four faces: 4 × 65 = 260

Answer **260 m²**

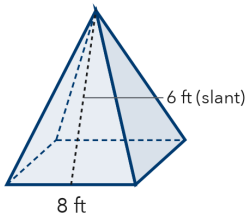
PRACTICE

show your work · label units

1. Find the lateral area of the square pyramid.

Show your work.

Answer _____ ft²



2. Find each lateral area.

a. SA = 200 in², base = 64 in² _____ in²

b. 4 faces, each 18 cm² _____ cm²

c. square base, side 6 m; slant height 10 m _____ m²

d. square base, side 3 ft; slant height 4 ft _____ ft²

3. **Tower Roof.** A roof is a square pyramid with a base 14 ft on each side and a slant height of 10 ft. Shingles cover only the slanted faces. One bundle covers 35 ft². How many bundles are needed?

Answer _____ bundles

4. **Lampshade.** A lampshade is a square pyramid with no base. Its lateral area is 160 in² and each base edge is 8 in. What is its slant height?

Answer _____ in

5. **Play Tent.** A play tent is a square pyramid with a base 5 ft on each side and a slant height of 6 ft. It has no floor. Sasha says it needs 85 ft² of fabric. Is she right? Explain.

_____

_____

TEST PRACTICE

choose the best answer

6. A square pyramid has a base 4 cm on each side and a slant height of 7 cm. What is its lateral area?

A 14 cm² **B** 56 cm² **C** 72 cm² **D** 112 cm²

7. A pyramid has a surface area of 120 m² and a lateral area of 84 m². What is its base area?

A 204 m² **B** 120 m² **C** 36 m² **D** 42 m²

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____