Lesson 5-6 · Session 1

# Drawing Nets of Solids

Name _____ Date _____ Period _____

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

Show a model, calculation, or explanation. Answer every part and label units when needed.

Exercises 1–12 earn 1 point for a correct response and 1 for supporting work. Spiral Review and Test Practice earn 1 point each.

## Learn from a model

**REMEMBER**

- A net is a 2-D pattern that folds up into a 3-D solid.
- Match each face of the net to a face on the solid — count the faces to check your net is complete.
- Watch out — a net must fold up without any face overlapping another.
- Check it — count the shapes in your net against the faces of the solid.

**WORKED EXAMPLE**

Drawing a Net from a Solid's Attributes A triangular prism has 2 triangle bases and 3 rectangular side faces. Draw and describe its net.

**Step 1** List the attributes. bases: 2 triangles side faces: 3 rectangles

**Step 2** Draw the 3 rectangles in a row — these wrap around the outside.

**Step 3** Attach 1 triangle to the top edge of the row and 1 to the bottom edge.

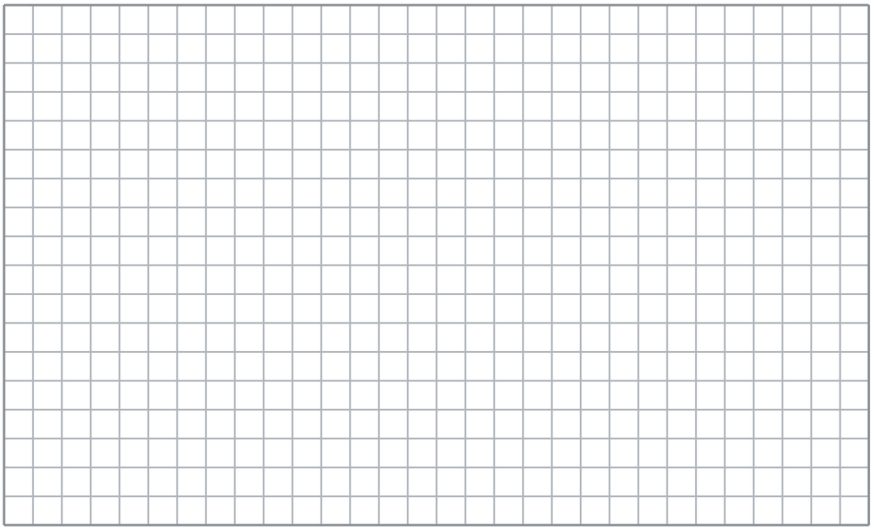
**Step 4** Check: five flat pieces, and every folding edge has a partner.

**Answer The net is a row of 3 rectangles with a triangle on the top edge and one on the bottom.**

## Practice

**1.** Draw a net for a cube. How many square faces does it need? _____

Net. Draw the net on the grid and label every face.

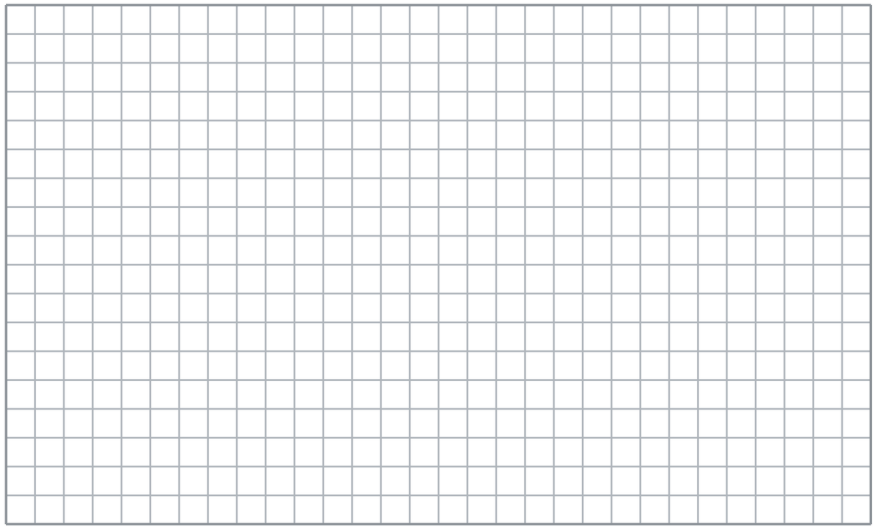


Answer _____

**DRAW AND LABEL YOUR NET**

**2.** Draw a net for a rectangular prism that is not a cube (has 3 different face sizes).

Net. Draw the net on the grid and label every face.



Answer _____

**DRAW AND LABEL YOUR NET**

**3.** How many faces does a triangular prism have, and what shapes are they?

Answer _____

**SHOW YOUR THINKING**

**4.** Count the flat pieces each net needs.

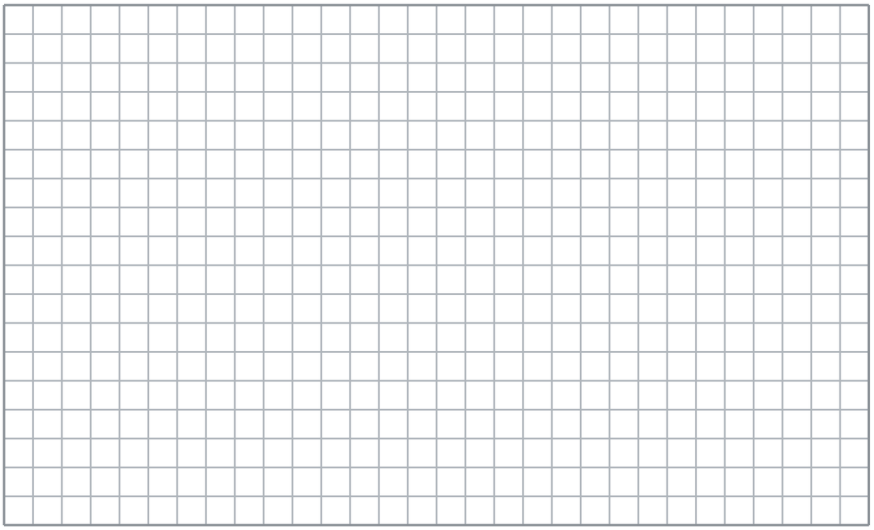
a. a cube's net has _____ squares
b. a square pyramid's net has 1 square and _____ triangles
c. a rectangular prism's net has _____ rectangles
d. a triangular prism's net has _____ triangles and _____ rectangles

Answer _____

**SHOW YOUR THINKING**

**5.** Snack Box. A snack box is a rectangular prism 9 cm long, 5 cm wide, and 4 cm tall. Draw a net for the box and label the three different rectangle sizes.

Net. Draw the net on the grid and label every face.

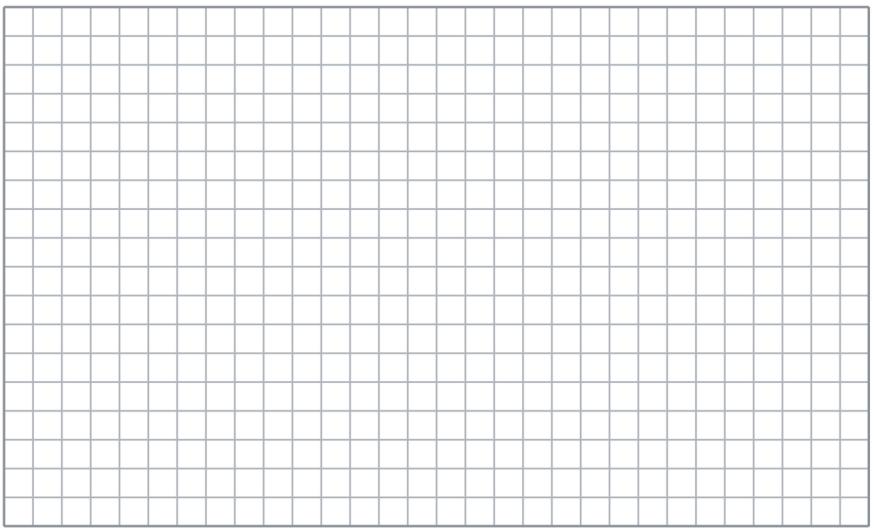


Answer _____

**DRAW AND LABEL YOUR NET**

**6.** Tent Model. A tent model is a triangular prism 8 in. long. Each triangular end has sides 5, 5, and 6 in., with height 4 in. Draw the net, then find the area of ONE triangular end.

Net. Draw the net on the grid and label every face.

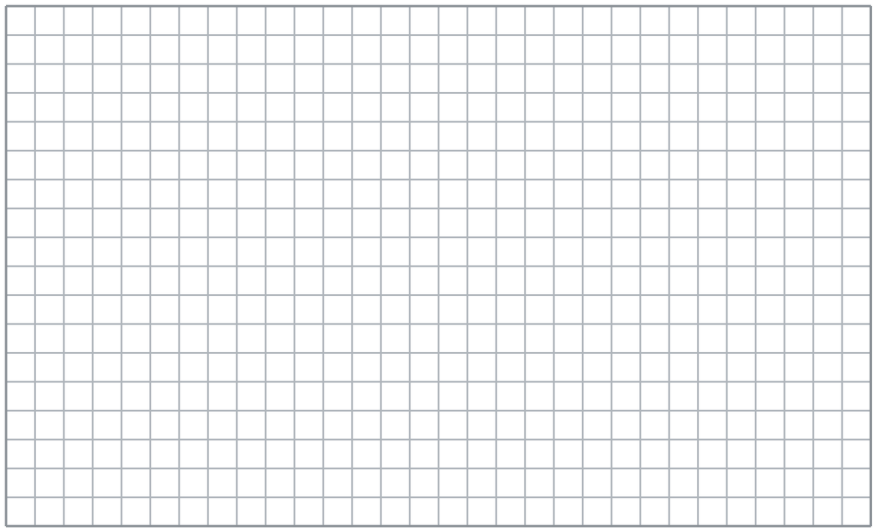


Answer _____

**DRAW AND LABEL YOUR NET**

**7.** Pyramid Model. A model is a square pyramid with a base 8 ft on each side. Each triangular face has a slant height of 9 ft. Draw the net, then find the area of the square base and of ONE triangular face.

Net. Draw the net on the grid and label every face.



Answer _____

**DRAW AND LABEL YOUR NET**

**8.** Jada drew a net for a rectangular prism using only 5 rectangles and says it will fold up. Explain what is wrong, then tell her exactly what to add.

Answer _____

**EXPLAIN WITH MATHEMATICAL EVIDENCE**

**9.** Describe the net of a cube with 5 cm edges.

Answer _____ your description

**RECORD YOUR RESPONSE**

**10.** A rectangular prism is 9 m by 6 m by 2 m. List the six rectangles in its net.

Answer _____ the six rectangles

SHOW YOUR THINKING

**11.** Count Them. A pentagonal prism has two pentagon ends and five rectangular sides. How many shapes are in its net?

Answer _____ shapes

SHOW YOUR THINKING

**12.** Find the Mistake. Jo drew a net for a rectangular prism using only 4 rectangles. Explain the mistake.

Answer _____ the mistake

EXPLAIN WITH MATHEMATICAL EVIDENCE

## Spiral review

**13.** From Lesson 5-5 Session 1. A prism has base area 30 cm² and height 5 cm. Find its volume.

Answer _____

SHOW YOUR THINKING

**14.** From Lesson 5-4 Session 2. Two joined shapes of 44 ft² and 20 ft² give what total?

Answer _____

SHOW YOUR THINKING

**15.** From Lesson 4-2 Session 1. Write 1/4 as a percent.

Answer _____

SHOW YOUR THINKING

## Test practice

**16.** A triangular prism's net contains —

- □ A. 6 rectangles
- □ B. 3 triangles, 2 rectangles
- □ C. 2 triangles, 3 rectangles
- □ D. 1 triangle and 4 squares

**17.** Opposite faces of a rectangular prism are —

| | |
|---|---|
| □ A. curved | □ B. different |
| □ C. triangles | □ D. identical |

**18.** A net folds into a solid without faces —

| | |
|---|---|
| □ A. overlapping | □ B. touching |
| □ C. matching | □ D. joining |

## Check and revise

| CHECK YOUR MATHEMATICS | HOW DID IT GO? |
|---|---|
| Account for every face. Check matching edge lengths and how the net folds.<br>Every part answered / Work shown / Units labeled when needed | I can do this:<br>Independently / With a hint / With help<br>Question to revisit: _____ |

One correction or question I want to discuss: _____

Check each labeled measure and required face or region. Use square units for area and cubic units for volume.