# Unfold It!

Nets and surface area in 3D

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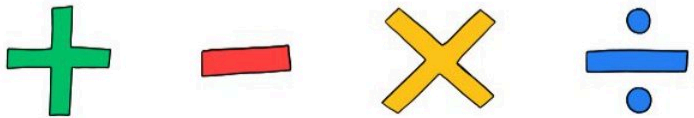
# Today we will...

**WE ARE LEARNING TO**

- Represent prisms and pyramids using nets
- Find surface area by adding face areas
- Solve real-world wrapping problems

**SUCCESS LOOKS LIKE**

- ✓ I can match a shape to its net
- ✓ I can find total surface area in square units





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$a^2+b^2=c^2$

# What Unfolds Into What?

📦

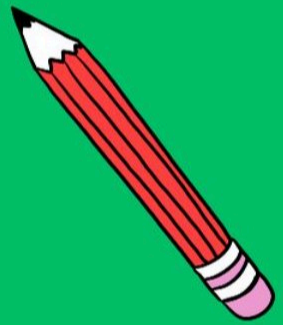
### Rectangular Prism

Six rectangles in three matching pairs.

🎲

### Cube

Six matching squares, a special prism.



🔺

### Triangular Prism

Two triangles plus three rectangles.

🔻

### Square Pyramid

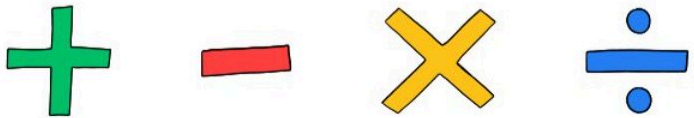
One square base plus four triangles.

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DID YOU KNOW?

# A cube has 11 different nets!

They all fold into the same cube with six square faces.



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## Think, pair, share

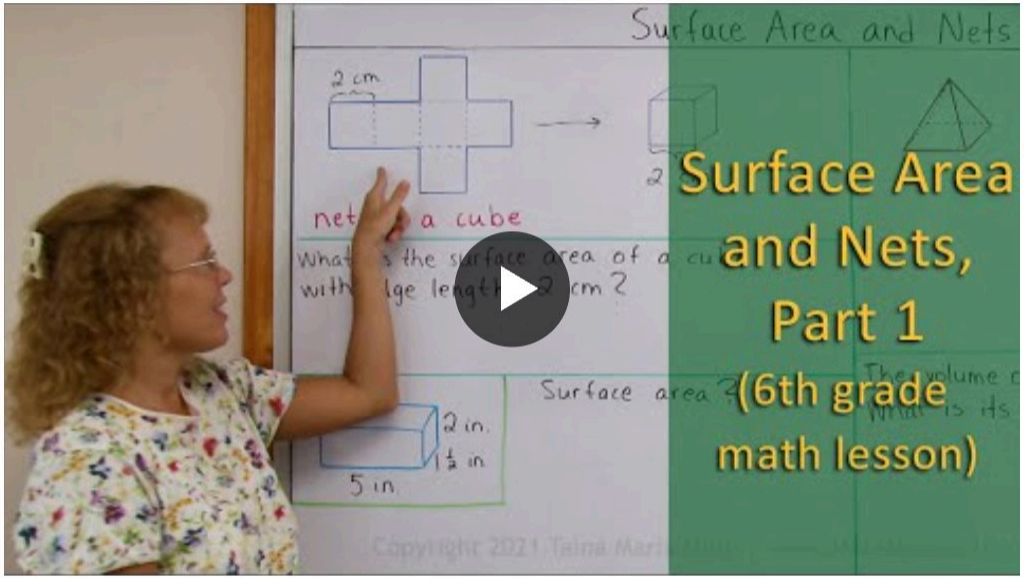
**How do you know a net shows the whole surface?**





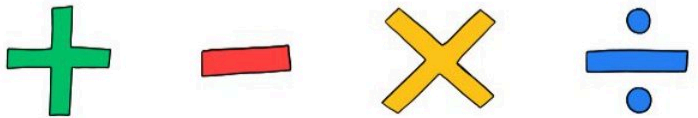

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# Unfolding Boxes




▶ 0:00 – 4:05

- Watch how flat net folds to 3D
- Spot the three pairs of rectangles
- Listen for adding to get surface area

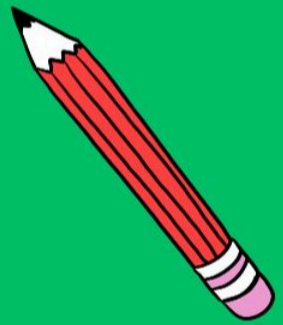


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$a^2+b^2=c^2$

# From Net to Surface Area

1. Lay net flat, label every face
2. Find each area: l x w and half x b x h
3. Check: opposite prism faces are equal
4. Add all faces in square units



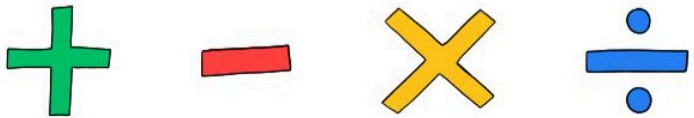
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# Wrapping a Real Box




▶ 0:00 – 4:43

- Watch which parts are front, side, top
- See how each rectangle area is found
- Check how total shows paper needed





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$a^2+b^2=c^2$

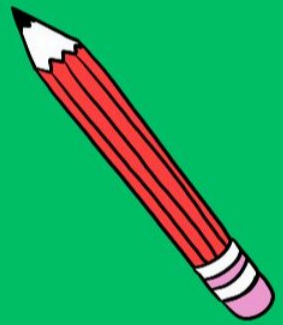
# Your task

**In pairs, find wrapping needed for a box net: 12 in. by 8 in., 3 in. by 8 in., 12 in. by 3 in.**

1. Sketch net and label each rectangle.
2. Find six face areas, match opposites.
3. Add for total in square inches.

**15 min**

**In pairs**

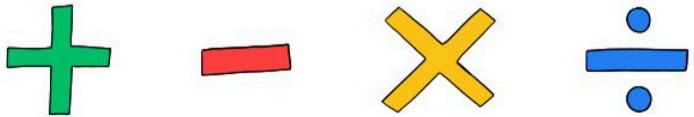


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# Put It Together

**Surface Area**

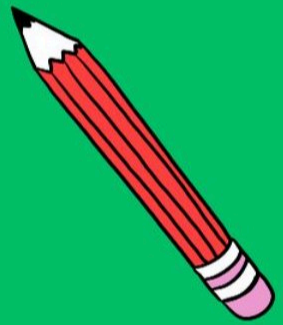
- net = all faces flat
- triangles: half x base x height
- add all in square units
- rectangles: length x width
- opposite faces match



$a^2+b^2=c^2$

# Who Uses Nets Most?

## Which job uses nets the most?



- **A** Designing gift boxes
- **B** Wrapping birthday presents
- **C** Building model pyramids

Vote with your hands, then explain why.

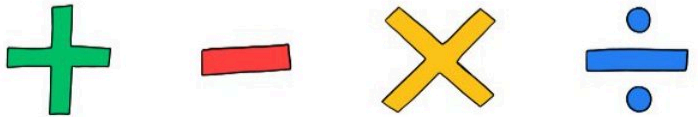
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# Exit ticket

1. Surface area of cube with 4-in. sides is ___ sq in.

2. One thing I learned today...

3. One question I still have...





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