

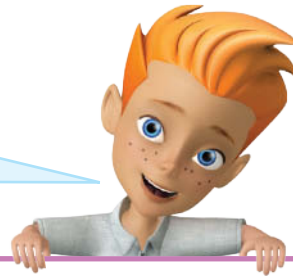


Homework 14-10

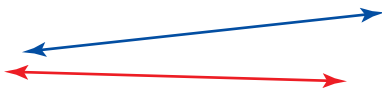
Use Reasoning

Another Look!

You can use reasoning to make generalizations about lines, angles, shapes, and other mathematical ideas. When you make a generalization, it is important to test it to see if it is correct.



Two lines on a plane will always intersect if they are not parallel.



Test: Lines go on and on in two directions, so extend the lines.

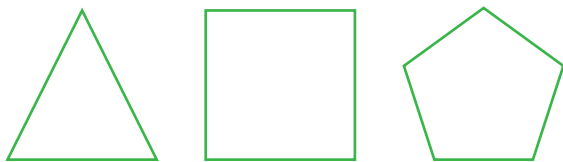


It's true. Any two lines on a plane that are not parallel will eventually intersect.

1. **Number Sense** Make a generalization about the sum of three odd numbers. Then test your generalization. Is it true?

If you can find one example of a generalization that is not true, then the generalization is not true.

2. Ronnie says that if all of the sides of a polygon have equal lengths, then all of the angles will have equal measures. He drew the figures below.



Is his generalization true? Explain.

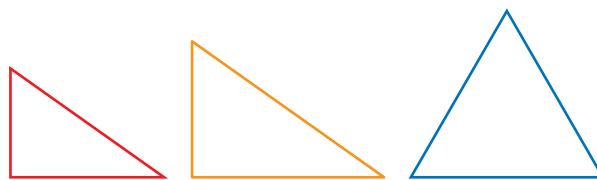


3. **Construct Arguments** Write down five consecutive multiples of 5. What generalization can you make about all multiples of 5?

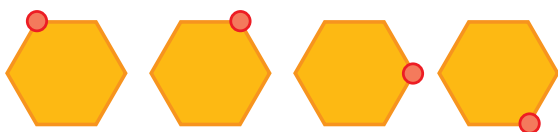
4. Which generalization is true about triangles?



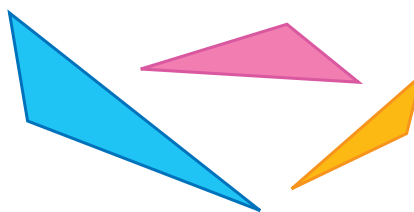
- A All triangles have 1 right angle.
- B All triangles have 3 angles and 3 sides.
- C All sides of a triangle are equal in length.
- D All the angles of a triangle are equal.



5. **Draw a Picture** Look at the pattern below. Draw the shape that would come next.



6. **Communicate** What generalization could be made about the triangles below?



7. **Explain** Today, Mike flew from New York to Chicago. Last week, Brittany flew from New York to Los Angeles. On Tuesday, Lucinda flew from New York to Miami. Can you make a connection among the three friends and the flights they took?

8. **Extend Your Thinking** How can analyzing information and making a generalization help you identify a pattern?

9. **Justify** What generalization can you make about all the figures shown? Explain why your generalization is correct.

