

Ready, Set, Go!



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Ready

Topic: Geometric figures

One of the cool things about geometric figures is that our world is filled with them. For instance, my bathroom mirror is a perfect rectangle and the tiles on my floor are squares. Plus, the edges of these shapes are straight lines or line segments which are pieces of lines, since theoretically a line goes on forever.

1. Look around your world and make a list of the things you see that have a geometric shape. Here are some shapes to begin with. Think of all you can and be prepared to share your lists with the class.

Triangle

Trapezoid

Parallelogram

Cube

Perpendicular lines

Set

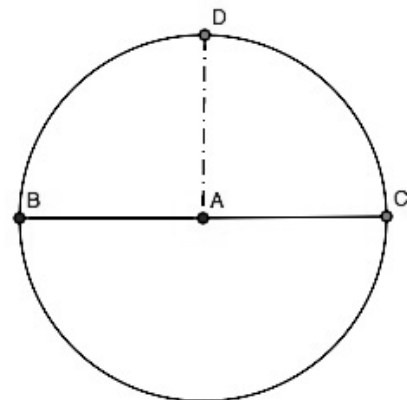
Topic: Linear pairs

2. Fold a piece of paper, making a smooth crease. Open the paper and examine the shape that you made. Is it a line? Will it always be a line? Justify your thinking.
3. Look at a wall where it meets the ceiling. How would you describe the intersection of the wall and the ceiling?

*Imagine folding a circle exactly in half so that the fold passes through the center of the circle. This fold is called the **diameter** of the circle. It is a line segment with a length, but it is also a special kind of angle called a **straight angle**.*

*In order to "see" the angle, think of the center of the circle. That point is the vertex of the angle. Either side of the vertex is a radius of the circle. Whenever you draw 2 radii of the circle you make an angle. When the two radii extend in exactly opposite directions and share a common endpoint (the center), they make a line or a **straight angle**.*

14. How many degrees do you think are in a *straight angle*? Use features of the diagram to justify your answer.



If two angles share a vertex and together they make a straight angle, then the two angles are called a **linear pair**. (Below are 3 examples of **linear pairs**.)



Examples of linear pairs in real life:



http://www.flickr.com/photos/angle_dore/6365060845



<http://www.flickr.com/photos/truthlying/3845031/sizes/>

5. Draw at least 2 diagrams of a real life linear pair.



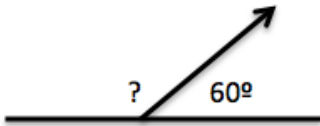
Go

Topic: The algebra of linear pairs.

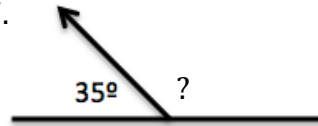
For 2 angles to be a **linear pair**, they must share a vertex and a side, and the sum of their measures must equal 180° .

Find the measure of the missing angle.

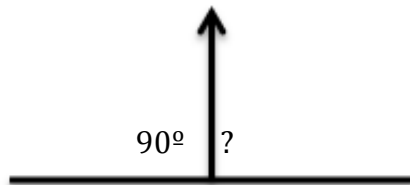
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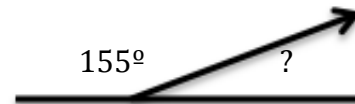
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8.



9.



10. Linear pairs could be defined as being **supplementary angles** because they always add up to 180° . Are all supplementary angles linear pairs? Explain your answer.

Find the supplement of the given angle. Then draw the two angles as linear pairs. Label each angle with its measure.

11. $m\angle ABC = 72^\circ$ B will be the vertex.



12. $m\angle GHK = 113^\circ$ H will be the vertex.



13. $m\angle XYZ = 24^\circ$ Y will be the vertex



14. $m\angle JMS = 168^\circ$ M will be the vertex

