

Lesson 70 1 of 9

Measuring angles

Learning the sum of the angles for triangles and rectangles

Learning division facts with remainders with dividends up to 50 and dividends with 5 as a factor

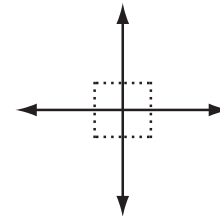
When two lines cross, an **angle** is formed.

Angles are measured in degrees using a protractor.

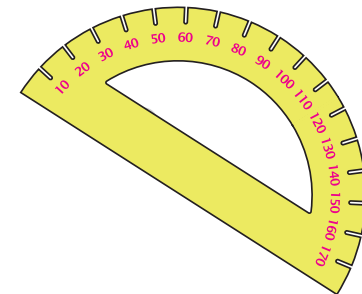
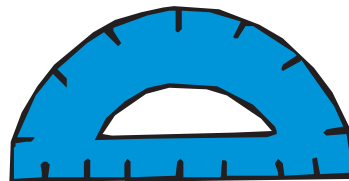
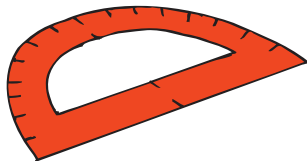
The two lines shown on the right are perpendicular.

Notice that this forms four 90° angles.

What do you think is the sum of the angles of a rectangle?



The sum of the angles of a triangle is always 180° .



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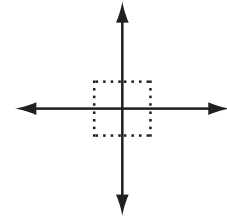
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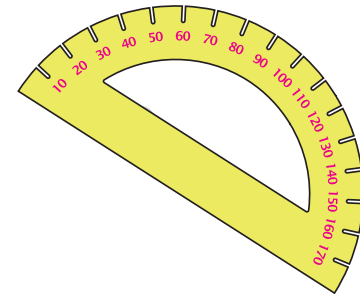
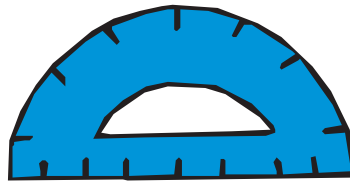
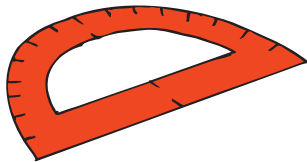
What do you think is the sum of the angles of a rectangle?



Since the adjoining sides of a rectangle are perpendicular, they form 4 right angles (square corners).

The sum of the angles of a rectangle is always 360° .

The sum of the angles of a triangle is always 180° .



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Remember that a **line** continues in both directions without end. The following notation is used.



A **line segment** has two endpoints. The following notation is used.



A **ray** is a line with only one endpoint. The following notation is used.



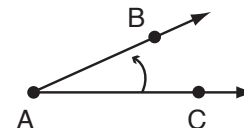
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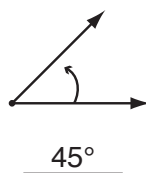
On the right, the two rays, AB and AC have the same endpoint and therefore form an angle. It is called a vertex. \overrightarrow{AB} and \overrightarrow{AC} are the sides of the angle. The small arrow indicates the angle that is being measured. The following notations can be used to refer to this angle.



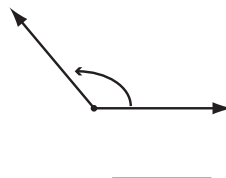
$\angle A$ or $\angle BAC$ or $\angle CAB$

Measure each of these angles with a protractor.

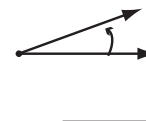
①



②



③



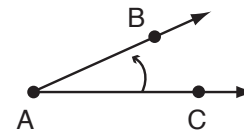
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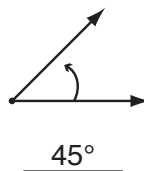
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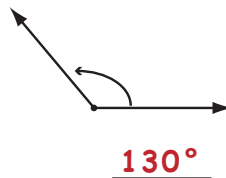
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Measure each of these angles with a protractor.

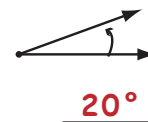
①



②



③



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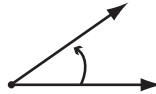
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Measure each of these angles with a protractor.

④



⑤



⑥



Select the best estimate for each angle.

⑦

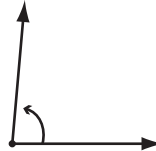


47°

94°

141°

⑧

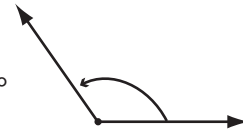


38°

85°

110°

⑨



43°

88°

125°

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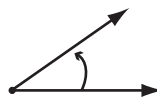
Measure each of these angles with a protractor.

④



180°

⑤



35°

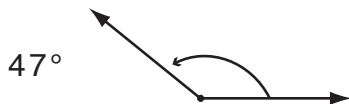
⑥



160°

Select the best estimate for each angle.

⑦

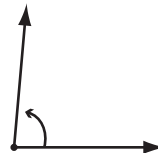


47°

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141°

⑧

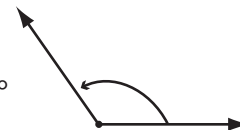


38°

85°

110°

⑨



43°

88°

125°

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⑩

$$\begin{array}{r} 4 \text{ r}1 \\ 6 \overline{) 25} \\ - 24 \\ \hline 1 \end{array}$$

⑪

$$7 \overline{) 26}$$

⑫

$$3 \overline{) 28}$$

⑬

$$4 \overline{) 26}$$

⑭

$$5 \overline{) 36}$$

⑮

$$8 \overline{) 46}$$

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⑩

$$\begin{array}{r} 4 \text{ r}1 \\ 6 \overline{)25} \\ \underline{-24} \\ 1 \end{array}$$

⑪

$$\begin{array}{r} 3 \text{ r}5 \\ 7 \overline{)26} \\ \underline{-21} \\ 5 \end{array}$$

⑫

$$\begin{array}{r} 9 \text{ r}1 \\ 3 \overline{)28} \\ \underline{-27} \\ 1 \end{array}$$

⑬

$$\begin{array}{r} 6 \text{ r}2 \\ 4 \overline{)26} \\ \underline{-24} \\ 2 \end{array}$$

⑭

$$\begin{array}{r} 7 \text{ r}1 \\ 5 \overline{)36} \\ \underline{-35} \\ 1 \end{array}$$

⑮

$$\begin{array}{r} 5 \text{ r}6 \\ 8 \overline{)46} \\ \underline{-40} \\ 6 \end{array}$$