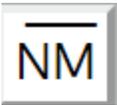
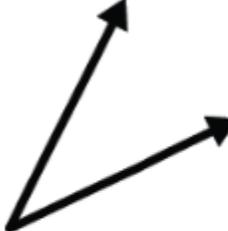


4th Grade Mission 4 Notes



Line Segment

Line with 2 endpoints

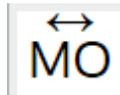
Angle

2 rays that share the same endpoint



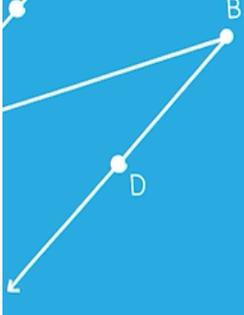

Line

Line with arrows on both sides; goes on forever




Point

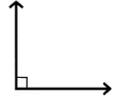
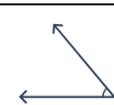
dot

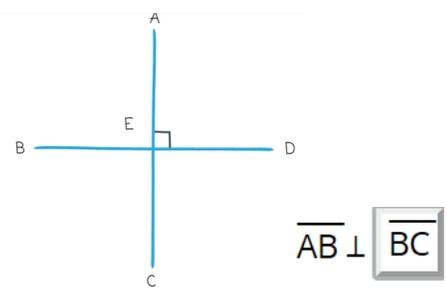
ray

One endpoint on one side and an arrow on the other side



Right angle		A square can go in the corner of the angle. Measures 90°
Acute angle		Measures less than a right angle (90°)
Obtuse angle		Measures greater than a right angle (90°)
Straight angle		Straight line. Measures 180°

Perpendicular lines

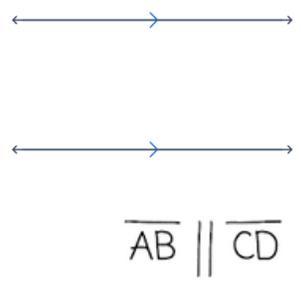


Lines that intersect to make right angles

Intersecting lines



Lines that cross each other



Parallel lines never touch now matter how far you extend them.

Degree unit used to measure an angle. (°)

$\frac{1}{360}$ of a full turn is a degree.

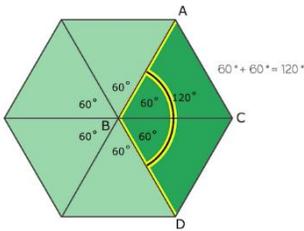
There are 360 degrees in a full turn.

There are 4 right angles, or quarter turns, in a full turn.

90°	One quarter turn of a circle (right angle)
180°	Half of a circle (two quarter turns/right angles) 90 + 90
270°	Three quarter turns of a circle 90 + 90 + 90
360°	A full turn/circle 90 + 90 + 90 + 90

The length of arc **does not** measure the angle.

The **sum of angles** around a central point is 360°



The **tick marks** between the tens place on the protractor are **ones**.



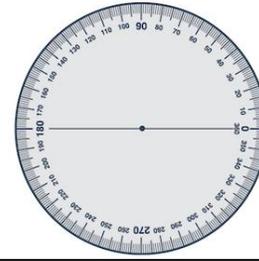
To find the measurement of a missing angle, subtract the size of the angle drawn from the part given.

SHOW YOUR WORK

$90^\circ - 60^\circ = 30^\circ$

Unknown angle = 30°

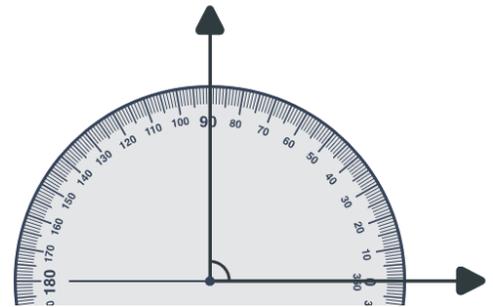
Protractor



tool used to draw and measures angles

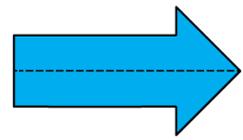


0 line- line up the corner of the angle (**vertex**) with this line when measuring angles



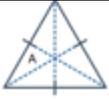
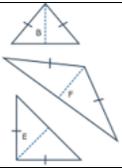
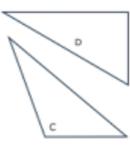
How to line up protractor when measuring an angle- line it up so the **bottom ray** in on the **0**

Line of symmetry- sides match perfectly when folded. A line passing through the center of a shape is always a line of symmetry.

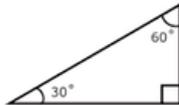
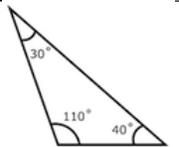
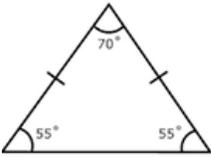


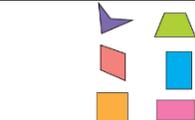
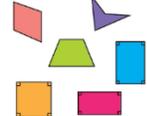
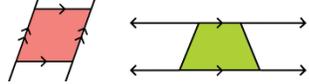
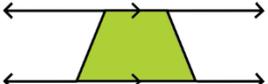
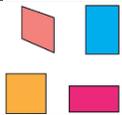
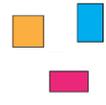
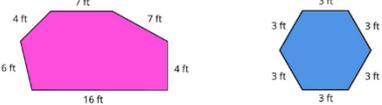
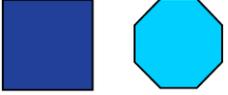
All triangles have	Some triangles have
3 sides	Obtuse angles
3 angles	Lines of symmetry

Triangle lengths

Equilateral triangle		3 equal sides	3 lines of symmetry
Isosceles triangle		2 equal sides	2 lines of symmetry
Scalene triangle		No equal sides	No lines of symmetry

Triangle angles

Right triangles		Must have at least one right angle measuring 90°
Obtuse triangles		Must have at least one obtuse angle measuring greater than 90°
Acute triangles		All angles must be less than 90°

Polygon		Closed shapes that has all straight sides
Angles		Two sides that share an endpoint
Right Angle		Point where two sides meet and forms a square (90°)
Quadrilateral		Polygon with four straight sides and four angles
Parallel lines (sides)		Lines that never touch
Trapezoid		Quadrilateral that has at least one set of parallel lines
Parallelogram		Quadrilateral that has two sets of parallel lines
Rectangle		Quadrilateral with four right angles (also a parallelogram) Have opposite sides that are parallel and equal
Square		Quadrilateral with four right angles and all sides are equal (also a parallelogram)
Hexagon		Polygon with 6 sides
Regular polygon		Shapes with all equal sides and equal angles
Triangle		Polygon with 3 sides
Pentagon		Polygon with 5 sides