**Constructing a Right Angle**

**Replicating An Angle Using A Compass**

**Replicating An Angle Using A Protractor**

🡪 Place a mark on a line segment where you want the vertex to be.

🡪 Using a compass, swing an arc each way to make new marks.

🡪 Mitres form angles by evenly splitting it. So, to find the outside angle of a mitre, take the angle and divide by the two.

🡪 Draw a ray for the new angle.

🡪 Make a mark on each ray of the angle with a compass (same distance each time).

🡪 Draw a ray for the new angle.

🡪 In the same way that you measure an angle just to find its size, measure the angle this time to duplicate it.

🡪 If necessary, extend the angle’s rays.

🡪 Draw a ray for the new angle.

**Measuring An Angle**

🡪 Line up the cross hairs of the protractor with the vertex.

🡪 Line up one ray of the angle.

🡪 Starting with the scale that starts with 0, measure the angle.

**Vertically Opposite Angles**

Are across from

each

other at each

intersection.

They are

\_\_\_\_\_\_\_\_\_.

**Classifying Angles**

|  |  |  |  |
| --- | --- | --- | --- |
| Less than |  | | Between |
|  |  | |  |
|  |  | |  |
|  | | Between | |
|  | |  | |

**Supplementary Angles**

Are beside each

other at each

intersection.

They add up to

\_\_\_\_\_.

E.g. Classify:

**Alternate Exterior Angles**

Are located on

the same side

of the transversal

but outside the parallel

lines. They are

\_\_\_\_\_\_\_\_.

**Bisecting An Angle**

**Using a Compass**

🡪 Line up the point of the compass with the vertex of the angle.

🡪 create an arc that intersections both rays.

🡪 From the intersections, swing a new mark each way to create a new intersection.

🡪 Connect the vertex to the intersection.

**Bisecting An Angle**

**Using a Protractor**

🡪 Line up the cross hair of the protractor with the vertex and measure the angle.

🡪 Determine what half the measure of the angle is and make a mark along the protractor.

🡪 Connect the vertex to the mark.

**UNIT TARGETS:**

*Geometry #3 –* Demonstrate an understanding of similarity of convex polygons, including regular and irregular polygons.

*Geometry #5* – Solve problems that involve parallel, perpendicular and transversal lines, and pairs of angles formed between them.

*Geometry #6* – Demonstrate an understanding of angles, including acute, right, obtuse, straight & reflex by drawing angles, replicating & constructing angles, bisecting angles and solving problems.

**Keyt**

Angle 🡪

Acute 🡪

Straight 🡪

Reflex 🡪

Vertically Opposite Angles 🡪

Transversal 🡪

Alternate Exterior Angles 🡪

Congruent 🡪

Polygon 🡪

Scale Factor 🡪

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name**

**Making Mitres**

Mitres are a type of angle cut made when you

want two pieces to fit well together.

This applies to things like baseboards, picture frames; where the quality of the work matters.

🡪 Using a larger radius, find an intersection from each of the new

marks to form the point for the angle.

🡪 Connect the vertex to the new intersection.

E.g. Determine the

Mitre angles needed

in order to frame a

picture that has

right angled corners.

🡪 Copy the arc onto the new ray.

🡪 Using the compass, transfer the arc length to the new angle and make a mark on the arc.

🡪 Connect the vertex to the mark.

E.g. Determine the mitre

angles for the picnic table.

Each section of the table is

made from a double mitred

board. Each board makes up

1/6 of the table.

🡪 Placing the protractor at the vertex, mark the proper angle off.

🡪 Connect the vertex to your mark to complete the new angle.

Vertex 🡪

Ray 🡪

Right 🡪

Obtuse 🡪

Complimentary Angles 🡪

Supplementary Angles 🡪

**Parallel Lines & Transversals**

🡪 The transversal is a line that

crosses a pair of parallel lines,

forming special angle relationships:

**Corresponding Angles**

Are located in

the same position

but at different

intersections.

They are

\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Alternate Interior Angles**

Are located on

the same side

of the transversal

but inside the parallel

lines. They are

\_\_\_\_\_\_\_\_.

**erms**

E.g. Determine the measure of the angle:

Similar🡪

Proportional 🡪

E.g. Classify:

Corresponding Angles 🡪

Alternate Interior Angles 🡪

E.g. Classify: