ANGLES

A DEFINITIONS

A.1 COMPARING ANGLES





Answer: The measure of an angle depends on the opening between its rays. A wider opening means a greater angle measure. Angle B has a wider opening (120°) compared to Angle A (30°) . Therefore, Angle B is greater.

MCQ 2: Which angle has the greater measure?



Answer: The measure of an angle depends on the opening between its rays. A wider opening means a greater angle measure. Angle B has a wider opening (100°) compared to Angle A (30°) . Therefore, Angle B is greater.

MCQ 3: Which angle has the greater measure?



Answer: The measure of an angle depends on the opening between its rays. A wider opening means a greater angle measure. Angle A has a wider opening (170°) compared to Angle B (80°) . Therefore, Angle A is greater.

MCQ 4: Which angle has the greater measure?



Answer: The measure of an angle depends on the opening between its rays. A wider opening means a greater angle measure. Angle A has a wider opening (60°) compared to Angle B (30°) . Therefore, Angle A is greater.

MCQ 5: Which angle has the greater measure?



Answer: The measure of an angle depends on the opening between its rays. A wider opening means a greater angle measure. Angle A has a wider opening (90°) compared to Angle B (30°) . Therefore, Angle A is greater.

A.2 NAMING ANGLES WITH THREE POINTS

MCQ 6: Which option correctly names the marked angle using three-point notation?



Answer: The marked angle has vertex D, with points E and F on its sides. In three-point notation, the vertex is in the middle, so the correct name is $\angle FDE$.

MCQ 7: Which option correctly names the marked angle using three-point notation?



- $\Box \angle DEF$
- $\Box \angle FDE$
- $\boxtimes \angle DFE$

Answer: The marked angle has vertex F, with points D and E on its sides. In three-point notation, the vertex is in the middle, so the correct name is $\angle DFE$.

MCQ 8: Which option correctly names the marked angle using three-point notation?



 $\Box \angle DFE$

 $\Box \angle FDE$

 $\boxtimes \angle DEF$

Answer: The marked angle has vertex E, with points D and F on its sides. In three-point notation, the vertex is in the middle, so the correct name is $\angle DEF$.

MCQ 9: Which option correctly names the marked angle using three-point notation?



 $\Box \angle DAC$

Answer: The marked angle has vertex A, with points D and B on its sides. In three-point notation, the vertex is in the middle, so the correct name is $\angle DAB$.





- $\Box \angle BFD$
- $\Box \angle FDE$
- $\boxtimes \angle DFE$
- $\Box \angle BFE$

Answer: The marked angle has vertex F, with points D and E on its sides. In three-point notation, the vertex is in the middle, so the correct name is $\angle DFE$.

MCQ 11: Which option correctly names the marked angle using three-point notation?



 $\Box \angle ZRA$

 $\Box \ \angle TRY$

 $\boxtimes \angle ZRT$

 $\Box \angle RZT$

Answer: The marked angle has vertex R, with points T and Z on its sides. In three-point notation, the vertex is in the middle, so the correct name is $\angle ZRT$.



B.1 DIVIDING THE FULL TURN







One-half of a full turn measures 180° .

Answer:







One-quarter of a full turn measures 90° .

Answer:

One-quarter of a full turn $=\frac{1}{4} \times 360^{\circ}$ $= 360^{\circ} \div 4$ $= 90^{\circ}$



Ex 14:



One-sixth of a full turn measures 60° .

Answer:

One-sixth of a full turn
$$=$$
 $\frac{1}{6} \times 360^{\circ}$
 $= 360^{\circ} \div 6$
 $= 60^{\circ}$



Ex 15:



One-eighth of a full turn measures 45° .

Answer:

One-eighth of a full turn
$$=$$
 $\frac{1}{8} \times 360^{\circ}$
 $= 360^{\circ} \div 8$
 $= 45^{\circ}$



Ex 16:





One-third of a full turn measures 120° .

Answer:



C MEASURING AND DRAWING ANGLES WITH A PROTRACTOR

C.1 MEASURING ANGLES

Ex 17:



The angle shown measures 50° .

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale. Here, one ray aligns with 0° , and the other points to 50° , so the angle measures 50° .

Ex 18:



The angle shown measures 30° .

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale. Here, one ray aligns with 0°, and the other points to 30°, so the angle measures 30° .

Ex 19:



The angle shown measures 100° .

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale. Here, one ray aligns with 0°, and the other points to 100°, so the angle measures 100° .

Ex 20:



The angle shown measures 90° .

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale. Here, one ray aligns with 0°, and the other points to 90°, so the angle measures 90°.







The angle shown measures $|120|^{\circ}$.

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale. Here, one ray aligns with 0° , and the other points to 120° , so the angle measures 120° .

Ex 22:



The angle shown measures 115° .

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale. Here, one ray aligns with 0° , and the other points to 115° , so the angle measures 115° .

Ex 23:



The angle shown measures 45° .

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale. Here, one ray aligns with 0° , and the other points to 45° , so the angle measures 45° .

C.2 MEASURING ANGLES

MCQ 24: Using a protractor, find the measure of the angle shown.



Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale.



Here, one ray aligns with 0°, and the other points to 50°, so the angle measures 50°.

MCQ 25: Using a protractor, find the measure of the angle shown.



 \Box 50°

⊠ 30°

- $\Box 90^{\circ}$
- \Box 130°

Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale.



(+)

Here, one ray aligns with 0° , and the other points to 30° , so the $\Box 130^{\circ}$ angle measures 30° .

MCQ 26: Using a protractor, find the measure of the angle shown.



Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale.



Here, one ray aligns with 0° , and the other points to 100° , so the angle measures 100° .

MCQ 27: Using a protractor, find the measure of the angle shown.



Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale.



Here, one ray aligns with $0^\circ,$ and the other points to $90^\circ,$ so the angle measures $90^\circ.$

MCQ 28: Using a protractor, find the measure of the angle shown.



Answer: To measure an angle with a protractor, place its center on the vertex and align one ray with the 0° mark. The other ray points to the angle's measure on the protractor's scale.



Here, one ray aligns with $0^\circ,$ and the other points to $120^\circ,$ so the angle measures $120^\circ.$



C.3 CONSTRUCTING ANGLES

Ex 29: Using a pencil, a ruler, and a protractor, draw an angle that measures 90° .

Answer: To draw a 90° angle:

- 1. Draw a ray using a ruler to create the first side of the angle.
- 2. Place the protractor's center on the endpoint of the ray (the vertex) and align the baseline with the ray at 0°.
- 3. Mark a point at 90° on the protractor's scale.
- 4. Remove the protractor and use the ruler to draw a second ray from the vertex through the marked point.

The resulting angle measures $90^\circ,$ as shown below.



Ex 30: Using a pencil, a ruler, and a protractor, draw an angle that measures 60° .

Answer: To draw a 60° angle:

- 1. Draw a ray using a ruler to create the first side of the angle.
- 2. Place the protractor's center on the endpoint of the ray (the vertex) and align the baseline with the ray at 0° .
- 3. Mark a point at 60° on the protractor's scale.
- 4. Remove the protractor and use the ruler to draw a second ray from the vertex through the marked point.

The resulting angle measures 60° , as shown below.



Ex 31: Using a pencil, a ruler, and a protractor, draw an angle that measures 120° .

Answer: To draw a 120° angle:

- 1. Draw a ray using a ruler to create the first side of the angle.
- 2. Place the protractor's center on the endpoint of the ray (the vertex) and align the baseline with the ray at 0°.
- 3. Mark a point at 120° on the protractor's scale.
- 4. Remove the protractor and use the ruler to draw a second ray from the vertex through the marked point.

The resulting angle measures 120°, as shown below.



Ex 32: Using a pencil, a ruler, and a protractor, draw an angle that measures 45° .

Answer: To draw a 45° angle:

- 1. Draw a ray using a ruler to create the first side of the angle.
- 2. Place the protractor's center on the endpoint of the ray (the vertex) and align the baseline with the ray at 0°.
- 3. Mark a point at 45° on the protractor's scale.
- 4. Remove the protractor and use the ruler to draw a second ray from the vertex through the marked point.

The resulting angle measures 45° , as shown below.



D CLASSIFICATION OF ANGLES

D.1 IDENTIFYING ANGLE TYPES BY MEASURE

MCQ 33: What is the nature of the marked angle?



Choose one answer:

- \boxtimes Acute angle
- \Box Right angle
- \Box Obtuse angle
- \Box Straight angle

Answer:

- An acute angle measures less than 90 degrees.
- The marked angle, measuring 40°, is acute because it is less than 90°.

MCQ 34: What is the nature of the marked angle?





Choose one answer:

- \Box Acute angle
- \Box Right angle
- \boxtimes Obtuse angle
- \Box Straight angle

Answer:

- An obtuse angle measures more than 90 degrees but less than 180 degrees.
- The marked angle, measuring 110°, is obtuse because it is between 90° and 180°.





Choose one answer:

- \Box Acute angle
- \boxtimes Right angle
- \Box Obtuse angle
- \Box Straight angle

Answer:

- A right angle measures exactly 90 degrees.
- The marked angle, measuring 90°, is a right angle.





Choose one answer:

- \boxtimes Acute angle
- $\Box\,$ Right angle
- \Box Obtuse angle
- \Box Straight angle

Answer:

- An acute angle measures less than 90 degrees.
- The marked angle, measuring 45°, is acute because it is less than 90°.

MCQ 37: What is the nature of the marked angle?



Choose one answer:

- \Box Acute angle
- \Box Right angle
- \boxtimes Obtuse angle
- \Box Straight angle

Answer:

- An obtuse angle measures more than 90 degrees but less than 180 degrees.
- The marked angle, measuring 135° , is obtuse because it is between 90° and 180° .

D.2 IDENTIFYING ANGLE TYPES

MCQ 38: Identify the type of the highlighted angle.



Choose one answer:

- \boxtimes acute angle
- \Box right angle
- \Box obtuse angle
- $\Box\,$ straight angle

Answer:

- An acute angle measures less than 90°.
- The highlighted angle ($\approx 40^{\circ}$) is less open than a right angle
- Hence it is **acute**.

MCQ 39: Identify the type of the highlighted angle.



Choose one answer:

- \Box acute angle
- \Box right angle



- \boxtimes obtuse angle
- \Box straight angle

Answer:

- An obtuse angle measures between 90° and 180° .
- The highlighted angle ($\approx 160^{\circ}$) is more open than a right

angle _____ but less than a straight angle

• Therefore it is **obtuse**.

MCQ 40: Identify the type of the highlighted angle.



Choose one answer:

- $\Box\,$ acute angle
- $\Box\,$ right angle
- $\Box\,$ obtuse angle
- \boxtimes straight angle

Answer:

- A straight angle measures exactly 180°.
- The highlighted angle forms a line.
- It is therefore **straight**.

MCQ 41: Identify the type of the highlighted angle.



Choose one answer:

- $\Box\,$ acute angle
- $\Box\,$ right angle
- \boxtimes obtuse angle
- $\Box\,$ straight angle

Answer:

- An obtuse angle measures between 90° and 180° .
- The highlighted angle ($\approx~110^\circ)$ is more open than a

right angle _____ but less open than a straight angle

• Therefore it is **obtuse**.

D.3 CONSTRUCTING ANGLE TYPES

Ex 42: Using a pencil, a ruler, and a protractor, draw an acute angle.

- Answer: To draw an acute angle, such as a 40° angle:
 - 1. Draw a ray using a ruler to create the first side of the angle.
 - 2. Place the protractor's center on the endpoint of the ray (the vertex) and align the baseline with the ray at 0°.
 - 3. Mark a point at 40° on the protractor's scale (any angle less than 90° is acceptable).
 - 4. Remove the protractor and use the ruler to draw a second ray from the vertex through the marked point.

The resulting angle is acute, measuring less than $90^\circ,$ as shown below.



Ex 43: Using a pencil, a ruler, and a protractor, draw an obtuse angle.

- Answer: To draw an obtuse angle, such as a 120° angle:
 - 1. Draw a ray using a ruler to create the first side of the angle.
 - 2. Place the protractor's center on the endpoint of the ray (the vertex) and align the baseline with the ray at 0° .
 - 3. Mark a point at 120° on the protractor's scale (any angle greater than 90° but less than 180° is acceptable).
 - 4. Remove the protractor and use the ruler to draw a second ray from the vertex through the marked point.

The resulting angle is obtuse, measuring greater than 90° but less than 180° , as shown below.



 \mathbf{Ex} 44: Using a pencil, a ruler, and a protractor, draw a right angle.

- Answer: To draw a right angle, which measures 90° :
- 1. Draw a ray using a ruler to create the first side of the angle.
- 2. Place the protractor's center on the endpoint of the ray (the vertex) and align the baseline with the ray at 0°.
- 3. Mark a point at 90° on the protractor's scale.
- 4. Remove the protractor and use the ruler to draw a second ray from the vertex through the marked point.



The resulting angle is a right angle, measuring exactly 90° , as shown below.

Answer: Using the angle addition postulate, $\angle FER$ is the sum of the smaller angles $\angle FED$ and $\angle DER$:

$$\angle FER = \angle FED + \angle DER$$
$$= 110^{\circ} + 130^{\circ}$$
$$= 240^{\circ}$$

Ex 48: Calculate the measure of $\angle FEM$.



Answer: Using the angle addition postulate, $\angle FEM$ is the sum of the smaller angles $\angle FED$, $\angle DER$, and $\angle REM$:

$$\angle FEM = \angle FED + \angle DER + \angle REM$$
$$= 55^{\circ} + 45^{\circ} + 60^{\circ}$$
$$= 160^{\circ}$$

Ex 49: Calculate the measure of $\angle FXM$.



Answer: Using the angle addition postulate, $\angle FXM$ is the sum of the smaller angles $\angle FXD$, $\angle DXR$, and $\angle RXM$:

$$\angle FXM = \angle FXD + \angle DXR + \angle RXM$$
$$= 30^{\circ} + 60^{\circ} + 50^{\circ}$$
$$= 140^{\circ}$$

Ex 50: Calculate the measure of $\angle MZP$.

 M_{\bullet}

Answer: Using the angle addition postulate, $\angle MZP$ is the sum of the smaller angles $\angle MZR$, $\angle RZD$, and $\angle DZP$:

$$\angle MZP = \angle MZR + \angle RZD + \angle DZF$$
$$= 60^{\circ} + 40^{\circ} + 80^{\circ}$$
$$= 180^{\circ}$$

90°

E ANGLE ADDITION

E.1 ADDING ANGLES

Ex 45: Calculate the measure of $\angle ABC$.



Answer: Using the angle addition postulate, $\angle ABC$ is the sum of the smaller angles $\angle ABD$ and $\angle DBC$:

$$\angle ABC = \angle ABD + \angle DBC$$
$$= 70^{\circ} + 50^{\circ}$$
$$= 120^{\circ}$$

Ex 46: Calculate the measure of $\angle FER$.



Answer: Using the angle addition postulate, $\angle FER$ is the sum of the smaller angles $\angle FED$ and $\angle DER$:

$$\angle FER = \angle FED + \angle DER$$
$$= 30^{\circ} + 75^{\circ}$$
$$= 105^{\circ}$$

Ex 47: Calculate the measure of $\angle FER$.





E.2 SUBTRACTING ANGLE

Ex 51: Calculate the measure of $\angle CBM$.



Answer: Using the angle addition postulate, the larger angle is the sum of the smaller angles:

$$\angle CBM + \angle MBA = \angle CBA$$

To find $\angle CBM$, subtract $\angle MBA$ from $\angle CBA$:

$$\angle CBM = \angle CBA - \angle MBA$$
$$= 140^{\circ} - 70^{\circ}$$
$$= 70^{\circ}$$

Ex 52: Calculate the measure of $\angle FDN$.



Answer: Using the angle addition postulate, the larger angle is the sum of the smaller angles:

$$\angle FDN + \angle NDE = \angle FDE$$

To find $\angle FDN$, subtract $\angle NDE$ from $\angle FDE$:

$$\angle FDN = \angle FDE - \angle NDE$$
$$= 120^{\circ} - 50^{\circ}$$
$$= 70^{\circ}$$

Ex 53: Calculate the measure of $\angle IGJ$.



Answer: Using the angle addition postulate, the larger angle is the sum of the smaller angles:

$$\angle IGJ + \angle JGH = \angle IGH$$

To find $\angle IGJ$, subtract $\angle JGH$ from $\angle IGH$:

$$\angle IGJ = \angle IGH - \angle JGH$$
$$= 160^{\circ} - 30^{\circ}$$
$$= 130^{\circ}$$

Ex 54: Calculate the measure of $\angle DZP$ by subtracting the known angles from the larger angle using the angle addition postulate.



Answer: Using the angle addition postulate, the larger angle is the sum of the smaller angles:

$$\angle MZR + \angle RZD + \angle DZP = \angle MZP$$

To find $\angle DZP$, subtract $\angle MZR$ and $\angle RZD$ from $\angle MZP$:

$$\angle DZP = \angle MZP - \angle MZR - \angle RZD$$
$$= 180^{\circ} - 60^{\circ} - 40^{\circ}$$
$$= 80^{\circ}$$

Ex 55: Calculate the measure of $\angle AOB$ by subtracting the known angles from the larger angle using the angle addition postulate.



Answer: Using the angle addition postulate, the larger angle is the sum of the smaller angles:

$$\angle AOB + \angle BOC + \angle COD = \angle AOD$$

To find $\angle AOB$, subtract $\angle BOC$ and $\angle COD$ from $\angle AOD$:

$$\angle AOB = \angle AOD - \angle BOC - \angle COD$$
$$= 160^{\circ} - 60^{\circ} - 60^{\circ}$$
$$= 40^{\circ}$$

F ANGLE PROPERTIES

F.1 CALCULATING AN UNKNOWN ANGLE IN A RIGHT ANGLE

Ex 56: Calculate the measure of the unknown angle.



Answer: The sum of angles in a right angle is equal to 90° .

$$x^{\circ} + 50^{\circ} = 90^{\circ}$$
$$x^{\circ} = 90^{\circ} - 50^{\circ} \quad (\text{subtract } 50^{\circ})$$
$$= 40^{\circ}$$

(°<u>+</u>°)

Ex 57: Calculate the measure of the unknown angle.



Answer: The sum of angles in a right angle is equal to 90° .

$$25^{\circ} + x^{\circ} = 90^{\circ}$$
$$x^{\circ} = 90^{\circ} - 25^{\circ} \quad \text{(subtract } 25^{\circ}\text{)}$$
$$= 65^{\circ}$$

Ex 58: Calculate the measure of the unknown angle.



Answer: The sum of angles in a right angle is equal to 90° .

$$30^{\circ} + x^{\circ} = 90^{\circ}$$
$$x^{\circ} = 90^{\circ} - 30^{\circ} \quad (\text{subtract } 30^{\circ})$$
$$= 60^{\circ}$$

Ex 59: Calculate the measure of the unknown angle.



Answer: The sum of angles in a right angle is equal to 90° . The two angles are equal (x°) .

$$x^{\circ} + x^{\circ} = 90^{\circ}$$

$$2x^{\circ} = 90^{\circ} \quad \text{(combine like terms)}$$

$$x^{\circ} = 90^{\circ} \div 2 \quad \text{(divide by 2)}$$

$$= 45^{\circ}$$

Ex 60: Calculate the measure of the unknown angle.



Answer: The sum of angles in a right angle is equal to 90°. The three angles are equal (x°) .

$$\begin{aligned} x^{\circ} + x^{\circ} + x^{\circ} &= 90^{\circ} \\ 3x^{\circ} &= 90^{\circ} \quad \text{(combine like terms)} \\ x^{\circ} &= 90^{\circ} \div 3 \quad \text{(divide by 3)} \\ &= 30^{\circ} \end{aligned}$$

F.2 CALCULATING AN UNKNOWN ANGLE IN A STRAIGHT ANGLE

Ex 61: Calculate the measure of the unknown angle.



Answer: The sum of angles in a straight line is equal to 180° .

$$x^{\circ} + 80^{\circ} = 180^{\circ}$$

 $x^{\circ} = 180^{\circ} - 80^{\circ}$ (subtract 80°)
 $= 100^{\circ}$

Ex 62: Calculate the measure of the unknown angle.



Answer: The sum of angles in a straight line is equal to 180°.

 $60^{\circ} + x^{\circ} = 180^{\circ}$ $x^{\circ} = 180^{\circ} - 60^{\circ} \quad (\text{subtract } 60^{\circ})$ $= 120^{\circ}$

Ex 63: Calculate the measure of the unknown angle.



Answer: The sum of angles in a straight line is equal to 180° .

$$x^{\circ} + 80^{\circ} + 60^{\circ} = 180^{\circ}$$

 $x^{\circ} = 180^{\circ} - 80^{\circ} - 60^{\circ}$ (subtract 80° and 60°)
 $= 40^{\circ}$

Ex 64: Calculate the measure of the unknown angle.



Answer: The sum of angles in a straight line is equal to 180° .

$$50^{\circ} + 75^{\circ} + x^{\circ} = 180^{\circ}$$

 $x^{\circ} = 180^{\circ} - 50^{\circ} - 75^{\circ}$ (subtract 50° and 75°)
 $= 55^{\circ}$

Ex 65: Calculate the measure of the unknown angle.





Answer: The sum of angles in a straight line is equal to 180° .

$$60^{\circ} + x^{\circ} + 55^{\circ} = 180^{\circ}$$

 $x^{\circ} = 180^{\circ} - 60^{\circ} - 55^{\circ}$ (subtract 60° and 55°)
 $= 65^{\circ}$

Ex 66: Calculate the measure of the unknown angle.



Answer: The sum of angles in a straight line is equal to 180° . The three angles are equal (x°) .

$$x^{\circ} + x^{\circ} + x^{\circ} = 180^{\circ}$$

$$3x^{\circ} = 180^{\circ} \quad \text{(combine like terms)}$$

$$x^{\circ} = 180^{\circ} \div 3 \quad \text{(divide by 3)}$$

$$= 60^{\circ}$$

F.3 CALCULATING AN UNKNOWN ANGLE IN A FULL ANGLE

Ex 67: Calculate the measure of the unknown angle.



Answer: The sum of angles in a point is equal to 360° .

$$200^{\circ} + x^{\circ} = 360^{\circ}$$

 $x^{\circ} = 360^{\circ} - 200^{\circ}$ (subtract 200°)
 $= 160^{\circ}$

Ex 68: Calculate the measure of the unknown angle.



Answer: The sum of angles in a point is equal to 360° .

$$x^{\circ} + 260^{\circ} = 360^{\circ}$$

 $x^{\circ} = 360^{\circ} - 260^{\circ}$ (subtract 260°)
 $= 100^{\circ}$

Ex 69: Calculate the measure of the unknown angle.



Answer: The sum of angles in a point is equal to 360° .

$$\begin{aligned} x^{\circ} + 80^{\circ} + 160^{\circ} &= 360^{\circ} \\ x^{\circ} &= 360^{\circ} - 80^{\circ} - 160^{\circ} \quad (\text{subtract } 80^{\circ} \text{ and } 160^{\circ}) \\ &= 120^{\circ} \end{aligned}$$

Ex 70: Calculate the measure of the unknown angle.



Answer: The sum of angles in a point is equal to 360° .

$$80^{\circ} + x^{\circ} + 170^{\circ} = 360^{\circ}$$

 $x^{\circ} = 360^{\circ} - 80^{\circ} - 170^{\circ}$ (subtract 80° and 170°)
 $= 110^{\circ}$

Ex 71: Calculate the measure of the unknown angle.



Answer: The sum of angles in a point is equal to 360° . The three angles are equal (x°) .

$$x^{\circ} + x^{\circ} + x^{\circ} = 360^{\circ}$$

$$3x^{\circ} = 360^{\circ} \quad \text{(combine like terms)}$$

$$x^{\circ} = 360^{\circ} \div 3 \quad \text{(divide by 3)}$$

$$= 120^{\circ}$$