01
Foundation

Types of Angles

Explore and use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve equations for an unknown angle in a figure. **CCSS.MATH.CONTENT.7.G.B.5 | US_EN_07_MAT_C31_WSA_m1**

FUTURE SCHOOL

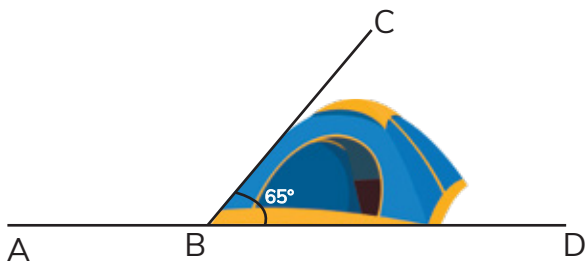**Before you become a stellar scout, you have to help the other scout groups. Let's get started!**

1 Out of 48 Hawker Scout, 23 participate in the swimming challenge, and remaining x participate in the running challenge. Set up an equation to determine the number of participants in the running challenge. Write your answer in the boxes given below.

23 + ☐ = ☐☐ ⟹ x = ☐☐ scouts

2 You have to teach the Hawker Scout how to pitch a tent. The measure of the angle that one end of the tent makes with the ground (∠CBD) is 65°. What is the measure of the adjacent angle (∠ABC) if ∠ABC and ∠CBD are supplementary? Write your answer in the boxes given below.
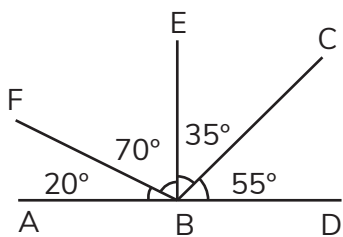
C
65°
A   B   D

The measure of ∠ABC is: ☐☐☐°

3 One of the Hawker Scout needs help with his math homework. He needs to identify which two angles given in the diagram below are complementary. Check the boxes for two angles whose measures add to 90°.

E   C
F
70° 35°
20°   55°
A   B   D

☐ ∠ABF and ∠FBE   ☐ ∠ABC and ∠CBD
☐ ∠EBC and ∠CBD   ☐ ∠EBD and ∠ABE

B FUTURE SCHOOL Types of Angles

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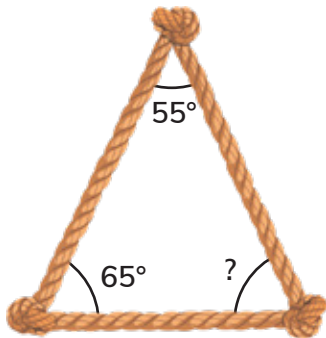
02
Foundation

4 The campsite is on an island that has been divided into 5 sections. The sections are - cooking area, stargazing area, skills training, campfire, and tent area, all spanning a full circle as shown below.Circle the two areas that lie at vertical angles.

Tent area (55°)

Campfire (65°)

Cooking area (60°)

Skills training (60°)

Stargazing area (120°)

| Campfire | Tent area | Skills training |

| Stargazing area | Cooking area |

5 In one of the skills training activities, you teach the Hawker Scout how to tie knots. You tie three knots such that it forms a triangle, as shown in the image below. The angles formed by two of the knots are 55° and 65°, respectively. Find the measure of the angle formed by the third knot and write your answer in the boxes given below.

Hint: The sum of the measures of internal angles of a triangle is 180°.

55°

65°   ?

The measure of the angle of the third knot is:

$180° - 55° -$ ⬚ $° =$ ⬚ $°$

01

Foundation

Types of Angles   (Answer sheet)   **FUTURE SCHOOL**

Explore and use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve equations for an unknown angle in a figure. **CCSS.MATH.CONTENT.7.G.B.5 | US_EN_07_MAT_C31_WSA_m1**

**Before you become a stellar scout, you have to help the other scout groups. Let's get started!**

1 Out of 48 Hawker Scout, 23 participate in the swimming challenge, and remaining x participate in the running challenge. Set up an equation to determine the number of participants in the running challenge. Write your answer in the boxes given below.

$$23 + \boxed{x} = \boxed{4}\,\boxed{8} \implies x = \boxed{2}\,\boxed{5} \text{ scouts}$$

2 You have to teach the Hawker Scout how to pitch a tent. The measure of the angle that one end of the tent makes with the ground (∠CBD) is 65°. What is the measure of the adjacent angle (∠ABC) if ∠ABC and ∠CBD are supplementary? Write your answer in the boxes given below.
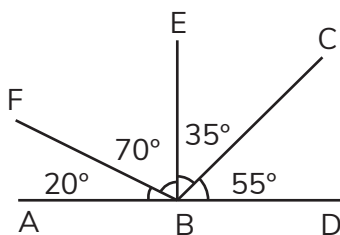
C

65°

A   B   D
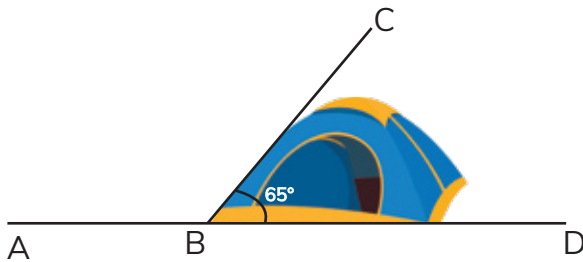
The measure of ∠ABC is:

$$\boxed{1}\,\boxed{1}\,\boxed{5}{}^{\circ}$$

3 One of the Hawker Scout needs help with his math homework. He needs to identify which two angles given in the diagram below are complementary. Check the boxes for two angles whose measures add to 90°.

E

C

F

70°   35°

20°   55°

A   B   D

☑ ∠ABF and ∠FBE   ☐ ∠ABC and ∠CBD

☑ ∠EBC and ∠CBD   ☐ ∠EBD and ∠ABE
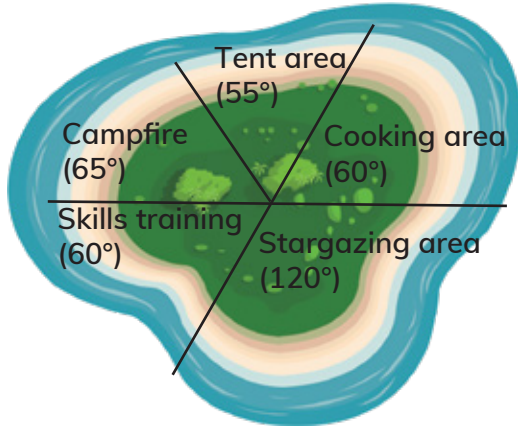
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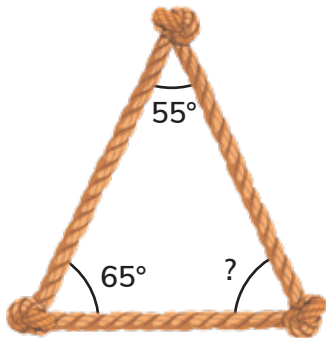
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Tent area (55°)
Campfire (65°)
Cooking area (60°)
Skills training (60°)
Stargazing area (120°)

Campfire   Tent area   ⬭ Skills training ⬭

Stargazing area   ⬭ Cooking area ⬭

5 In one of the skills training activities, you teach the Hawker Scout how to tie knots. You tie three knots such that it forms a triangle, as shown in the image below. The angles formed by two of the knots are 55° and 65°, respectively. Find the measure of the angle formed by the third knot and write your answer in the boxes given below.

Hint: The sum of the measures of internal angles of a triangle is 180°.

55°

65°   ?

The measure of the angle of the third knot is:

180° - 55° - $\boxed{6}\boxed{5}$° = $\boxed{6}\boxed{0}$°