

# Mountain Peak Adventures: An Angles Expedition with Rocky and Friends

Math

Grade 4

Mountains Theme

Help Rocky the mountain goat and his friends navigate their alpine adventures by solving angle challenges throughout the towering peaks!

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SCORE \_\_\_\_\_ / 8

1

Rocky the mountain goat is standing at the base of a steep cliff. He looks straight ahead (0 degrees) and then tilts his head up to see the eagle's nest at the peak. He turns his head 45 degrees up from straight ahead. Later, he turns another 35 degrees more to see the very top of the mountain. What is the total angle Rocky has turned his head from looking straight ahead?

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2

Echo the mountain eagle is designing a new landing platform on a cliff face. She needs two ramps that form a right angle where they meet. One ramp makes a 90-degree angle with the cliff wall. If one of the ramps going down the mountainside makes a 35-degree angle with the ground, what angle does the other ramp make with the ground?

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3

Stone the boulder is stuck in a mountain pass. Two rescue ropes are attached to him, forming an angle. The first rope goes up the mountain at a 120-degree angle from the horizontal ground. The second rope goes down the mountain. Together, these two ropes form a straight line. What angle does the second rope make with the horizontal ground?

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4

Peak the mountain lion is tracking a zigzag path through the rocky terrain. At the first turn, the path angles 65 degrees to the left. At the second turn, it angles 75 degrees to the left. If Peak started walking due north, what is the total angle he has turned from his original direction?

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5

Crystal the ice bear is standing at a mountain crossroads where three paths meet. One path goes straight up the mountain (0 degrees). Another path goes 110 degrees from that path. The third path completes the rest of the angles around Crystal. If all three paths split the area around Crystal evenly in one direction, what angle is between the second and third path?

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6

Granite the miner found a precious gem wedged in two rock formations that meet at an angle. The two rocks form a V-shape. If one rock leans at 32 degrees from vertical, and the other rock leans at 38 degrees from vertical on the opposite side, what is the angle of the V-shaped gap where the gem is stuck?

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7

Storm the snow leopard is watching an avalanche cascade down the mountain in three sections. The first section of snow falls at a 45-degree angle. The second section tumbles at a 62-degree angle. If Storm wants to know the difference between the steepest and least steep sections to plan her escape, what is that difference?

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8

Ridge the mountain climber is setting up camp at four different altitudes on the mountainside. The angle between camp 1 and camp 2 is 28 degrees. The angle between camp 2 and camp 3 is 34 degrees. The angle between camp 3 and camp 4 is 23 degrees. If Ridge walks from camp 1 all the way to camp 4, what is the total angle traversed?

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# Answer Key

Math

Grade 4

For Parents and Teachers

1

Rocky the mountain goat is standing at the base of a steep cliff. He looks straight ahead (0 degrees) and then tilts his head up to see the eagle's nest at the peak. He turns his head 45 degrees up from straight ahead. Later, he turns another 35 degrees more to see the very top of the mountain. What is the total angle Rocky has turned his head from looking straight ahead?

ANSWER

80 degrees

2

Echo the mountain eagle is designing a new landing platform on a cliff face. She needs two ramps that form a right angle where they meet. One ramp makes a 90-degree angle with the cliff wall. If one of the ramps going down the mountainside makes a 35-degree angle with the ground, what angle does the other ramp make with the ground?

ANSWER

55 degrees

3

Stone the boulder is stuck in a mountain pass. Two rescue ropes are attached to him, forming an angle. The first rope goes up the mountain at a 120-degree angle from the horizontal ground. The second rope goes down the mountain. Together, these two ropes form a straight line. What angle does the second rope make with the horizontal ground?

ANSWER

60 degrees

4

Peak the mountain lion is tracking a zigzag path through the rocky terrain. At the first turn, the path angles 65 degrees to the left. At the second turn, it angles 75 degrees to the left. If Peak started walking due north, what is the total angle he has turned from his original direction?

ANSWER

140 degrees

5

Crystal the ice bear is standing at a mountain crossroads where three paths meet. One path goes straight up the mountain (0 degrees). Another path goes 110 degrees from that path. The third path completes the rest of the angles around Crystal. If all three paths split the area around Crystal evenly in one direction, what angle is between the second and third path?

ANSWER

110 degrees

6

Granite the miner found a precious gem wedged in two rock formations that meet at an angle. The two rocks form a V-shape. If one rock leans at 32 degrees from vertical, and the other rock leans at 38 degrees from vertical on the opposite side, what is the angle of the V-shaped gap where the gem is stuck?

ANSWER

70 degrees

7

Storm the snow leopard is watching an avalanche cascade down the mountain in three sections. The first section of snow falls at a 45-degree angle. The second section tumbles at a 62-degree angle. If Storm wants to know the difference between the steepest and least steep sections to plan her escape, what is that difference?

**ANSWER**

**17 degrees**

8

Ridge the mountain climber is setting up camp at four different altitudes on the mountainside. The angle between camp 1 and camp 2 is 28 degrees. The angle between camp 2 and camp 3 is 34 degrees. The angle between camp 3 and camp 4 is 23 degrees. If Ridge walks from camp 1 all the way to camp 4, what is the total angle traversed?

**ANSWER**

**85 degrees**