2.8: Applying the Sine and Cosine Laws

Example #1 Jill and her friends built an outdoor hockey rick. The hockey goal line is 5 feet wide. Jill shoots a puck from a point where the puck is 5 yards from one goal post and 6 years from the other goal post. Within what angle must Jill make her shot to hit the net?

Example #2 Two cyclists leave from the same location with an angle of 63° between their paths. Johal cycles at a speed of 35 km/h and Julio at a speed of 40 km/h. How far apart are they after 3 hours?

Making Decisions Using Trigonometry

It is a good idea to draw a diagram as you are reading through the problem the second time, marking in known information as you come across it. Once you have the picture, it is much easier to decide which trig strategy to employ.

If the problem is modeled by a right triangle, use the primary trig ratios.

If the problem is modeled by an acute triangle, you have to decide between the Sine Law and Cosine Law based on the given information.

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                    Problem Modelled by
                         Triangle

        Right Triangle                    Acute Triangle

     sin     cos     tan        Sine Law              Cosine Law

                                                              2 sides and the
                                        2 angles and a given  contained angle
                                              side

                                                                3 sides
                                        2 sides and an angle
                                        opposite one of them
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