Perimeter = add the sides

Circumference of a circle: πd or $2\pi r$

Area of triangle = $\frac{bh}{2}$

Area of rectangle = $l \times w$

Area of circle = πr^2

Area of parallelogram = bh

Area of trapezoid = $\frac{(a+b)h}{2}$

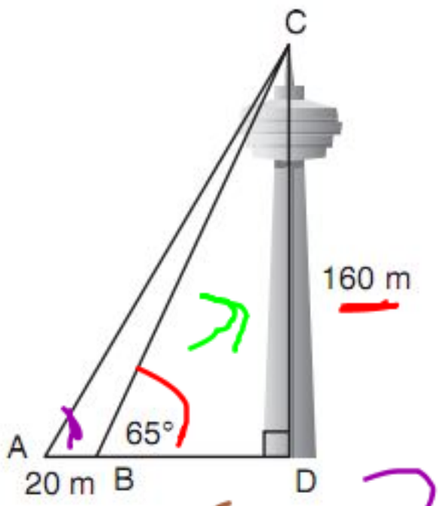
p. 61 — 62

a/b/c 1abc, 2, 3, 4 abc

8. The Skylon Tower in Niagara Falls is about 160 m high. From a certain distance, Frankie measures the angle of elevation to the top of the tower to be 65°. Then he walks another 20 m away from the tower in the same direction and measures the angle of elevation again. Use primary trigonometric ratios to determine the measure of the new angle of elevation.

p. 9

Sept 15



Step 1

$\tan 65^\circ = \frac{opp}{adj}$

$\tan 65^\circ = \frac{160}{c}$

$\frac{c \tan 65^\circ}{\tan 65^\circ} = \frac{160}{\tan 65^\circ}$

$c = 74.6\text{m}$

$c = 74.6\text{m}$

$\tan A = \frac{opp}{adj}$

$\tan A = \frac{160}{94.6}$

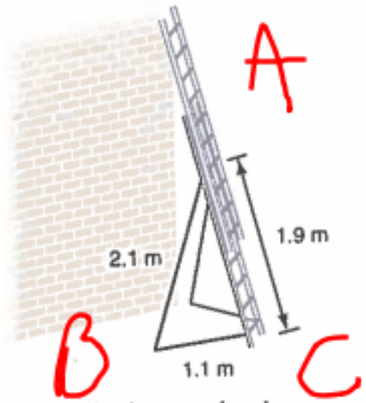
$\tan A = 1.6913$

$\tan^{-1} = 59.4^\circ$

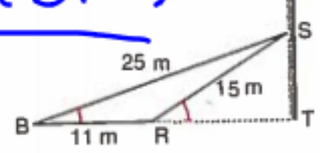
the new angle of elevation is 59.4°.

p. 40

12. A telescoping ladder has a pair of aluminum struts, called ladder stabilizers, and a base. What is the angle between the base and the ladder?



13. A hydro pole needs two guy wires for support. What angle does each wire make with the ground?

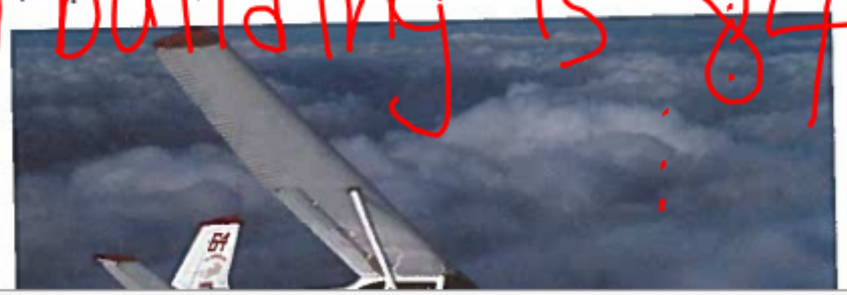


14. A land survey shows that a triangular plot of land has side lengths 2.5 miles, 3.5 miles, and 1.5 miles. Determine the angles in the triangle. Explain how this problem could be done in more than one way.

15. **Assessment Focus** An aircraft navigator knows that town A is 71 km due north of the airport, town B is 201 km from the airport, and towns A and B are 241 km apart.

a) On what bearing should she plan the course from the airport to town B? Include a diagram.

b) Explain how you solved the problem.



$\cos C = \frac{a^2+b^2-c^2}{2ab}$

$\cos C = \frac{(1.1)^2+(1.9)^2-(2.1)^2}{2(1.1)(1.9)}$

$\cos C = \frac{1.21+3.61-4.41}{4.18}$

$\cos C = \frac{0.41}{4.18} = 0.980$

$\cos^{-1} = 84.37$

$\angle C = 84.4^\circ$

the angle between the base of the ladder and the building is 84°