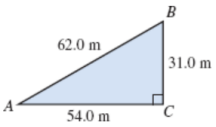
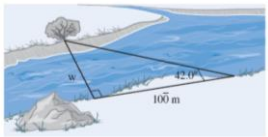
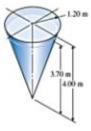
MTH 111 Chapter 13 Graded Homework
Answer Key

13.1 #14 14. $a = 12.0$ km, $c = 61.0$ km 59.8 km	13.1 #22 22. $a = 203{,}000$ ft, $c = 521{,}000$ ft 480,000 ft	13.1 #30  Find Tan B 1.7419
13.1 #36 36. $\tan 14.6°$ 0.2605	13.1 #54 54. $\sin B = 0.3040$ 17.69°	13.1 #64 64. $\cos B = 0.2597$ 74.94°
13.2 #14 14. $a = 25.45$ in., $c = 41.25$ in. $b = 32.46\ in, A = 38.1°, B = 51.9°$	13.3 #10 10. $c = 36.7$ mi, $B = 68.3°$ $A = 21.7°, a = 13.6\ mi, b = 34.1 mi$	13.3 #18 18. $a = 9820$ ft, $B = 35.7°$ $A = 54.3°, b = 7056\ ft, c = 12{,}092\ ft$
13.3 #24 24. $a = 18.3$ mi, $A = 71.2°$ $B = 18.8°, b = 6.23\ mi, c = 19.3\ mi$	13.4 #10 10. $a = 13.6$ cm, $b = 13.6$ cm $A = 45°, B = 45°, c = 19.2$	13.4 #16 16. $a = 2436$ ft, $c = 4195$ ft $b = 3415\ ft, A = 35.5°, B = 54.5°$
13.4 #20 20. $A = 14.60°, b = 135.7$ cm $B = 75.4°, c = 191.9\ cm, a = 48.4\ cm$	13.5 #4 4. The recommended safety angle of a ladder against a building is 78°. A 10-m ladder will be used. How high up on the side of the building will the ladder safely reach? (See Illustration 2.) Illustration 2  9.78 m	13.5 #6 6. Find the width of the river in Illustration 4. Illustration 4  90 m
13.5 #18 18. A right circular conical tank with its point down (Illustration 12) has a height of 4.00 m and a radius of 1.20 m. The tank is filled to a height of 3.70 m with liquid. How many litres of liquid are in the tank? (1000 litres = 1 m^3.) How many litres would then need to be added to fill the tank to 100% capacity? Illustration 12  Contains 4.77 m^3, to fill: 1.26 m^3	13.5 #34 34. A lean-to is a simple shelter with three walls, a sloping roof, and an open front facing away from the prevailing winds. The back wall is short compared to the front opening. If the lean-to at a campsite has a front opening that is 6.0 ft tall, a back wall that is 2.0 ft tall, and a floor that is 8.0 ft deep, what angle does the roofline make with the ground? 26.6°	