Name: _____     Date: _____

# Chapter 2 Review

For questions 1 and 2, choose the correct answer: A, B, C, or D
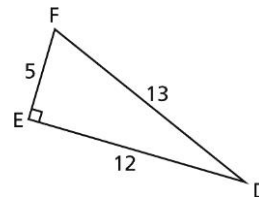
1. For ΔDEF, how many of these statements are true?

   $\cos \angle D = \dfrac{12}{13}$        $\sin \angle D = \dfrac{5}{13}$

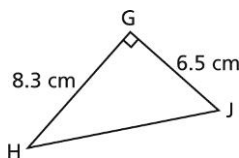   $\tan \angle D = \dfrac{5}{12}$        $\tan \angle F = 2.4$



   **A.** 1 is true.        **B.** 2 are true.        **C.** 3 are true.        **D.** All are true.

2. In right ΔDEF, with ∠E = 90°, which statement is false?
   As ∠D decreases:
   **A.** sin ∠D increases.                **B.** sin ∠F increases.
   **C.** cos ∠D increases.                **D.** cos ∠F decreases.

3. **a)** Solve each triangle. Give your answers to the nearest tenth.

   **i)**



   **ii)** Right ΔKMN with ∠M = 90°, ∠N = 26°, and KN = 15.0 cm.

   **b)** When you solved the triangles in part a, did you use the same strategies?
   If your answer is yes, describe your strategy.
   If your answer is no, explain why you used different strategies.

4. The angle of inclination of a conveyor is 8°. The conveyor rises 0.75 m.
   What is the length of the conveyor? Give your answer to the nearest hundredth of a metre.

5. A helicopter is hovering at a height of 300 m.
   From the helicopter, the angle of depression of the top of a wind turbine is 40°
   and the angle of depression of the base of the turbine is 48°.
   Determine the height of the turbine, to the nearest tenth of a metre.

**Answers**

1. D
2. A
3. **a)** **i)** JH $\doteq$ 10.5 cm; $\angle$H $\doteq$ 38.1°; $\angle$J $\doteq$ 51.9°

   **ii)** MN $\doteq$ 13.5 cm; KM $\doteq$ 6.6 cm; $\angle$K = 64°

   **b)** Answers may vary. No, I used different strategies. In $\Delta$GHJ, I used the Pythagorean Theorem first to calculate the length of the third side, then I used the tangent ratio to calculate the angle measures. In $\Delta$KMN, I used the sine and cosine ratios to calculate the lengths of the legs, then I subtracted the given angle from 90° to calculate the other acute angle. I didn't need the Pythagorean Theorem.
4. The conveyor is about 5.39 m long.
5. TB = 73.3 m