EXERCISE 1.0   NAME _Aaron Orr_

TOPOGRAPHIC MAPS - REVIEW

3. What is the scale (stated as a ratio) of a map where 1inch = 1 mile? Show your calculations.

$$\text{mi} \times \frac{5280 \text{ ft}}{\text{mi}} \times \frac{12 \text{ in}}{\text{ft}} = \boxed{1 : 63,360}$$

4. On a map drawn to a scale of 1inch = 1 mile, what distance on the map represents 2,000 feet? Show your calculations.

$$1 \text{ mi} \times \frac{5280 \text{ ft}}{\text{mi}} = 5280 \text{ ft}$$

$$\text{in} = 5280 \text{ ft} \qquad \frac{2000}{5280} = \boxed{0.379 \text{ in}}$$

5. What is the scale (stated as a ratio) of a map where 1" = 2,000'? Show your calculations?

$$2000 \text{ ft} \times \frac{12 \text{ in}}{\text{ft}} = 24,000 \text{ in} \qquad 1 : 24,000$$

6. On a map drawn to a scale of 1:100,000, what distance is represented by 3 inches? Show your calculations.

$$3 \text{ in} \times \frac{100,000}{1} = 300,000 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} \times \frac{1 \text{ mi}}{5280 \text{ ft}} = \boxed{4.73 \text{ mi}}$$

7. On a map drawn to a scale of 1:100,000, what distance is represented by 3 cm? Show your calculations.

$$3 \text{ cm} \times \frac{100,000}{1} = 300,000 \text{ cm} \times \frac{1 \text{ m}}{100 \text{ cm}} \times \frac{1 \text{ km}}{1000 \text{ m}} = \boxed{3 \text{ km}}$$

8. A 4"-long ridge on an air photo is 2 miles on a map. What is the photo scale?

$$\frac{4 \text{ in} = 2 \text{ mi}}{4} \qquad \frac{}{4} \qquad 1 \text{ in} = 0.5 \text{ mi} \; ; \; 0.5 \text{ mi} \times \frac{5280 \text{ ft}}{\text{mi}} \times \frac{12 \text{ in}}{\text{ft}} = 31680$$

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$$\boxed{1 : 31680}$$