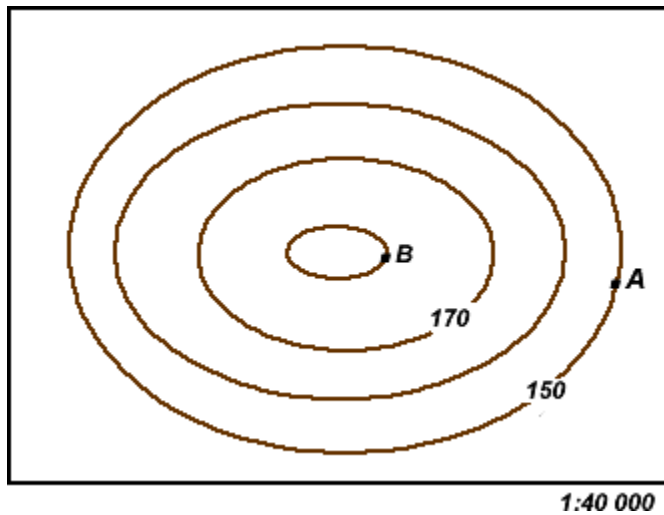


## Geography 12

### Gradient Exercises **Answer Key**

Calculate the slope from A to B for the diagrams below. Express your answers in m/km, %, and ratio. Round the m/km and % to the nearest whole number. Round the ratio to the nearest first decimal. Show all your work.

1)



**B - A**

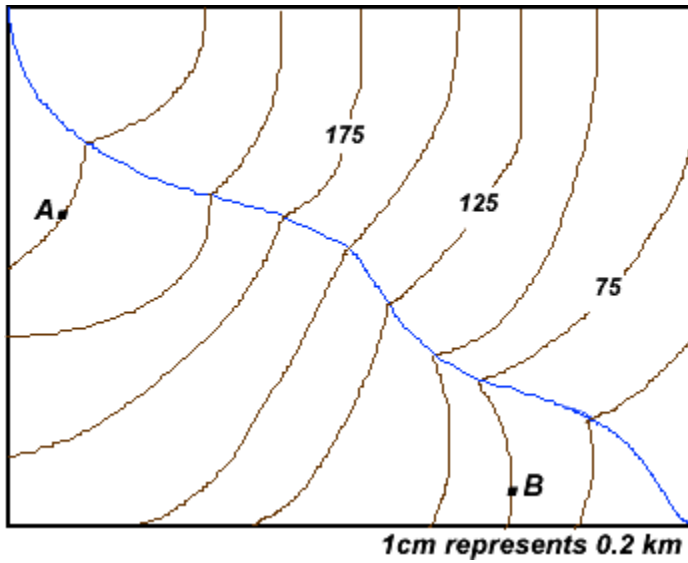
$$\text{Rise} = (180-150)\text{m} = 30\text{m} = \underline{26\text{m/km}}$$

$$\text{Run} = (2.9\text{cm} \times 0.4)\text{km} = 1.16\text{km}$$

$$\frac{30\text{m}}{1.16\text{km}} = \frac{30\text{m}}{1160\text{m}} \times 100 = \underline{3\%}$$

$$\frac{30\text{m}}{1160\text{m}} \div \frac{30}{1160} = \frac{1}{38.7} = \underline{1:38.7}$$

2)



**B - A**

$$\text{Rise} = (75-225)\text{m} = -150\text{m} = \underline{-114\text{m/km}}$$

$$\text{Run} = (6.6\text{cm} \times 0.2)\text{km} = 1.32\text{km}$$

**Note:** The negative indicates that the slope is going downhill.

$$\frac{-150\text{m}}{1.32\text{km}} = \frac{-150\text{m}}{1320\text{m}} * 100 = \underline{-11\%} \text{ or simply } \underline{11\%}$$

$$\frac{-150\text{m}}{1320\text{m}} \div \frac{150}{1320} = \underline{-1} = \underline{-1:8.8} \text{ or simply } \underline{1:8.8}$$

**Note:** The negative is typically left out for the % and ratio. Apply the negative though for the m/km.