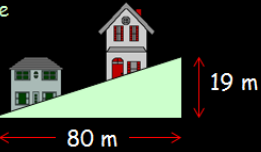


Outcome 1 - Calculating Gradient

Bronze examples

Examples... gradient = $\frac{\text{vertical}}{\text{horizontal}}$

Calculate the gradient of the following hill...



$$\text{gradient} = \frac{19}{80} \quad \text{gradient} = \frac{2}{7}$$

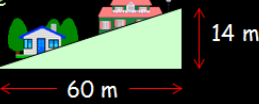
Calculate the gradient of the following ramp...



Silver examples

Examples... gradient = $\frac{\text{vertical}}{\text{horizontal}}$

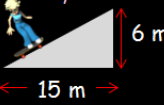
Calculate the gradient of the following hill...



$$\text{gradient} = \frac{14}{60} = \frac{7}{30} \quad \text{**divide both numbers by 2**}$$

$$\text{gradient} = \frac{6}{15} = \frac{2}{5} \quad \text{**divide both numbers by 3**}$$

Calculate the gradient of the following ramp...



Gold examples

Examples... To find the gradient between the points (x_1, y_1) and (x_2, y_2) use...

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the gradient of the line passing through $(3, 2)$ and $(5, 12)$.

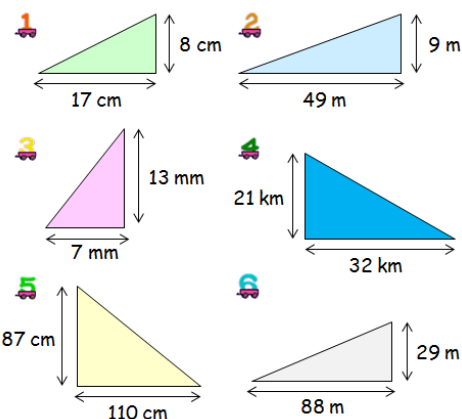
$$m = \frac{12 - 2}{5 - 3} = \frac{10}{2} = 5 \quad \text{**Sub into formula**}$$

Find the gradient of the line passing through $(3, 2)$ and $(7, 18)$.

$$m = \frac{18 - 2}{7 - 3} = \frac{16}{4} = 4$$

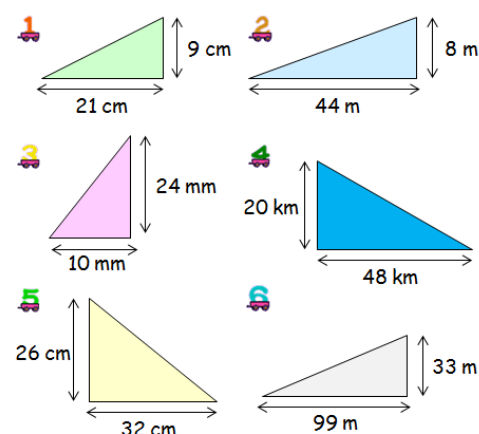
Bronze Questions

Calculate the following gradients...



Silver Questions

Calculate the following gradients...



Gold Questions

Calculate the gradient of the straight lines passing through the points...

1. $(2, 4)$ and $(4, 10)$
2. $(5, 3)$ and $(7, 11)$
3. $(4, 2)$ and $(6, 12)$
4. $(3, 3)$ and $(5, 15)$
5. $(1, 2)$ and $(4, 14)$
6. $(2, 1)$ and $(4, 7)$
7. $(1, 8)$ and $(5, 16)$
8. $(2, 3)$ and $(7, 8)$
9. $(4, 1)$ and $(5, 8)$
10. $(2, 12)$ and $(6, 12)$

Bronze Answers

- | | |
|--------------|-------------|
| 1. $8/17$ | 2. $9/49$ |
| 3. $13/7$ | 4. $-21/32$ |
| 5. $-87/110$ | 6. $29/88$ |

Silver Answers

- | | |
|----------------------|---------------------|
| 1. $9/21 = 3/7$ | 2. $8/44 = 2/11$ |
| 3. $24/10 = 12/5$ | 4. $-20/48 = -5/12$ |
| 5. $-26/32 = -13/16$ | 6. $33/99 = 1/3$ |

Gold Answers

- | | |
|------------|-------------|
| 1. $m = 3$ | 2. $m = 4$ |
| 3. $m = 5$ | 4. $m = 6$ |
| 5. $m = 4$ | 6. $m = 3$ |
| 7. $m = 2$ | 8. $m = 1$ |
| 9. $m = 7$ | 10. $m = 0$ |