

Outcome 2 - Calculating & Using Scale Factor

Bronze example

Examples...
Find the enlargement scale factor...

Scale Factor = $6 \div 3 = 2$
OR Scale Factor = $4 \div 2 = 2$

Silver example

Examples...
Find the reduction scale factor...

Scale Factor = $\frac{3}{12} = \frac{1}{4}$ (or $\frac{2}{8}$)

Gold example

Examples...
Find the length of the missing side...

Scale Factor = $18 \div 6 = 3$
 $x = 3 \times 4 = 12$ cm

Bronze Questions

Calculate the following scale factors of enlargement...

1 1 cm height, 2 cm width → 5 cm height, 10 cm width

2 1 cm height, 2 cm width → 4 cm height, 8 cm width

3 2 cm height, 4 cm width → 6 cm height, 12 cm width

4 6 cm height, 4 cm width → 54 cm height, 36 cm width

5 2 cm height, 3 cm width → 10 cm height, 15 cm width

6 6 cm height, 6 cm width → 60 cm height, 60 cm width

Silver Questions

Calculate the following scale factors of reduction...

1 6 cm height, 9 cm width → 2 cm height, 3 cm width

2 2 cm height, 4 cm width → 1 cm height, 2 cm width

3 10 cm height, 20 cm width → 2 cm height, 4 cm width

4 36 cm height, 24 cm width → 6 cm height, 4 cm width

5 14 cm height, 21 cm width → 2 cm height, 3 cm width

6 30 cm height, 30 cm width → 3 cm height, 3 cm width

Gold Questions

Using the scale factor, calculate the length of the missing sides...

1 2 cm height, 3 cm width → 10 cm height, x cm width

2 x cm height, 4 cm width → 9 cm height, 12 cm width

3 3 cm height, 4 cm width → x cm height, 20 cm width

4 24 cm height, 8 cm width → 6 cm height, x cm width

5 24 cm height, 15 cm width → x cm height, 5 cm width

6 x cm height, 56 cm width → 8 cm height, 8 cm width

Bronze Answers

- | | |
|------|-------|
| 1. 5 | 2. 4 |
| 3. 3 | 4. 9 |
| 5. 5 | 6. 10 |

Silver Answers

- | | |
|------------------|-------------------|
| 1. $\frac{1}{3}$ | 2. $\frac{1}{2}$ |
| 3. $\frac{1}{5}$ | 4. $\frac{1}{6}$ |
| 5. $\frac{1}{7}$ | 6. $\frac{1}{10}$ |

Gold Answers

- | | |
|----------|----------|
| 1. 15 cm | 2. 3 cm |
| 3. 15 cm | 4. 2 cm |
| 5. 8 cm | 6. 56 cm |