

**SMART EXAM RESOURCES**  
**CAMBRIDGE LOWER SECONDARY**  
**STAGE 7 TOPIC QUESTIONS**  
**MATHS**  
**UNITARY METHOD-SET-1**

- 1 A candle loses 22.4 cm of height when it burns for 7 hours.



An identical candle burns for 4 hours.

Work out how much height the candle loses.

..... cm [2]

**Mark Scheme:**

12.8 cm	<b>2</b>	
Evidence of a method of dividing by 7 and multiplying by 4. e.g. <ul style="list-style-type: none"> <li><math>\frac{4}{7} \times 22.4</math></li> <li><math>22.4 \div 7 \times 4</math></li> </ul>	M1	

- 2 In the United States a person's mass is given in pounds.  
100 pounds = 45.4 kg  
A woman's mass is 63.6 kg

Convert this to pounds.

\_\_\_\_\_pounds [2]

## Mark Scheme:

	<p>Saturday <b>and</b> a correct reason relating to the <b>mean</b> or <b>average</b>, e.g.</p> <p>It has the largest mean/ average value.</p>	1	<p>Do not accept Saturday has the smallest range, by itself.</p>
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3 A train travels at 300 kilometres per hour.

Work out how far the train travels in 25 minutes.

..... km [1]

## Mark Scheme:

	125 (kilometres)	1	
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- 4 These are the instructions on a box of grass seed.

1.5 kg of seed will cover  
an area of  $48\text{m}^2$

Work out the amount of grass seed that is needed to cover an area of  $256\text{m}^2$ .

..... kg [2]

**Mark Scheme:**

	8 (kg)	<b>2</b>	
	a correct complete method e.g.: <ul style="list-style-type: none"> <li>• <math>256 \div 48 \times 1.5</math></li> <li>• <math>256 \div 32</math></li> </ul>	<b>M1</b>	



5 Here are some currency exchange rates.

$$1 \text{ US dollar} = 7.76 \text{ HK dollars}$$

$$1 \text{ US dollar} = 1.47 \text{ NZ dollars}$$

Work out the value of 1000 HK dollars in NZ dollars.

..... NZ dollars [2]

**Mark Scheme:**

	189.43 (NZ dollars)	<b>2</b>	Allow 189 or 189.4 or 189.43...
	$1000 \div 7.76$ or $1.47 \div 7.76$	<b>M1</b>	M1 implied by 129 or 128.865 (correctly rounded or truncated to 4sf or better) or 0.189(4...)