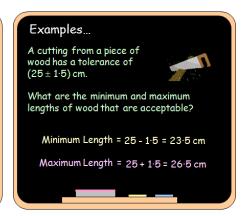
Outcome 1 - Maximum & Minimum Values

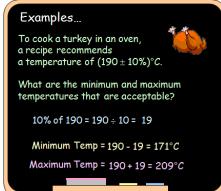
Bronze example

Examples... A company making matches aims for them all to be 35 mm in length exactly. As this is not always possible, they will accept each match within a tolerance of (35 ± 4) mm. What are the minimum and maximum length of matches that the company will accept? Minimum Length = 35 - 4 = 31 mm Maximum Length = 35 + 4 = 41 mm

Silver example

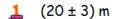


Gold example



Bronze Questions

For each of the following tolerances, write down the minimum (min) and maximum (max) allowable sizes...





 $(82 \pm 6) \, \text{mm}$



 $(50 \pm 1) \text{ kg}$

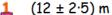
 $(69 \pm 9) \, \text{ml}$

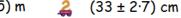
 (4 ± 2) litres

 $(20 \pm 8)^{\circ}C$ 8

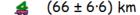
Silver Questions

For each of the following tolerances, write down the minimum (min) and maximum (max) allowable sizes...

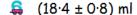




 $(54 \pm 4.8) \text{ mm}$



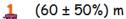
 (8.5 ± 1.9) kg

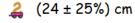


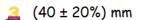


Gold Questions

For each of the following tolerances, write down the minimum (min) and maximum (max) allowable sizes...

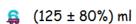








(90 ± 70%) kg



 $(300 \pm 5\%)$ q

(18 ± 15%)°C



Bronze Answers

1. min = 17 m, max = 23 m

3. $min = 76 \, mm$, $max = 88 \, mm$

5. min = 49 kg, max = 51 kg

min = 2 litres, max = 6 litres 8. min = 12°C, max = 28°C

2. min = 93 cm, max = 107 cm

4. $min = 42 \, km, max = 52 \, km$

6. min = 60 ml, max = 78 ml

Silver Answers

1. min = 9.5 m, max = 14.5 m

2. min = 30.3 cm, max = 35.7 cm

3. min = 49.2 mm, max = 58.8 mm 4. min = 59.4 km, max = 72.6 km

5. min = 6.6 kg, max = 10.4 kg

6. min = 17.6 ml, max = 19.2 ml

7. min = 3.7 q, max = 3.8 q

8. min = 7·19 °C, max = 7·27 °C

Gold Answers

1. min = 30 m, max = 90 m

2. min = 18 cm, max = 30 cm

3. $min = 32 \, mm, \, max = 48 \, mm$

4. min = 19.8 km, max = 20.2 km

5. min = 27 kg, max = 153 kg

6. min = 25 ml, max = 225 ml

7. min = 285 g, max = 315 g

8. min = $15.3^{\circ}C$, max = $20.7^{\circ}C$