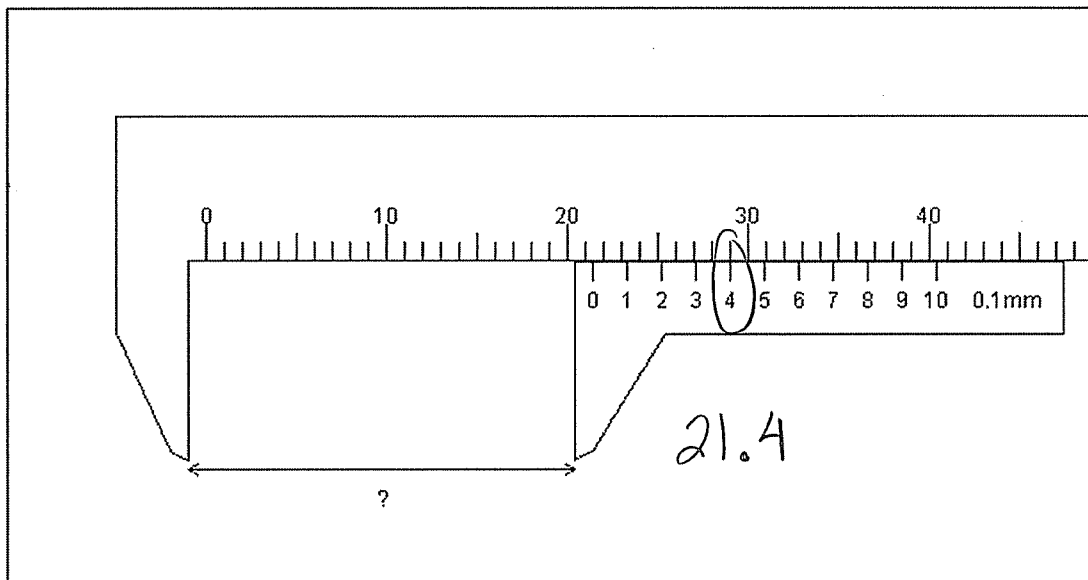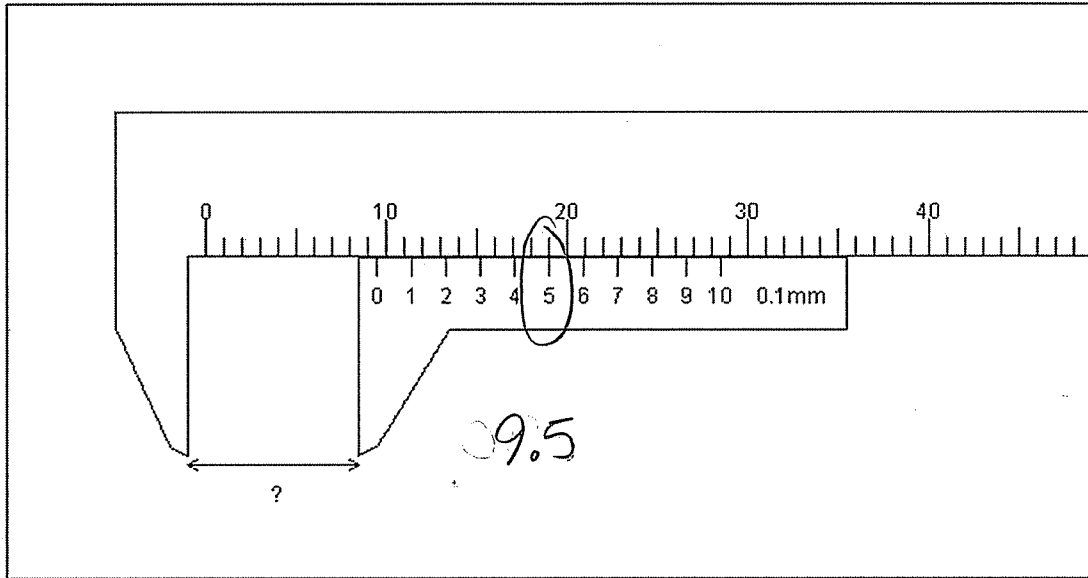Name ___Key___

1. What is the following reading on the vernier calipers below:

9.5

21.4

2. Convert the following measurements:
   a) 5 ft. 10 in. to centimetres   Put 5ft 10 in into "inches"

   $5ft \times \dfrac{12in}{1ft} = 60in.$ → $5ft \; 10in = 60in + 10in = 70in.$

   $70in \times \dfrac{2.54cm}{1in} = \boxed{177.8cm}$

   b) 3 km to the nearest yards

   $3km \times \dfrac{1000m}{1km} \times \dfrac{1 \, yard}{0.9144m} = \boxed{3280.84 \; yards}$

   c) 2500 mm to feet and the nearest inch

   $2500mm \times \dfrac{1 \, cm}{10mm} \times \dfrac{1inch}{2.54cm} = 98.4 \, inches.$ → how many feet + inches.

   $98 in \times \dfrac{1ft}{12in} = 8.17ft.$ $8 \times 12 = 96$ $\boxed{8ft. \; 2 \; inches}$

3. A football field is 110 yards long measured from goal post to goal post. A rugby field is 100 m long. Which field is longer? Justify your answer.

football: $110 \; yards \times \dfrac{0.9144m}{1 \, yard} = 100.584m$ ← longer than 100 m

Football field is longer by 0.584 m.

4. The doorway to Sam's office is 2 feet 8 inches wide. He wishes to purchase a desk 75 cm wide. Can the desk pass through his office doorway? Justify your answer.

2ft 8 inches:

$2ft \times \dfrac{12in}{1ft} = 24in$

$2ft, 8in = 24 + 8 = 32in$

→ $32in \times \dfrac{2.54cm}{1in} = 81.28cm$

Doorway is 81.28cm wide so desk will fit.

5. Jo wants to use chain link to fence her yard. She needs to fence three sides of the yard as the house (10 m wide) forms the fourth side of the yard. The back yard measures 10 m by 7 m. Chain link is sold by the foot. How many feet of chain link will she need?

total fence needed = $7 + 10 + 7 = 24m.$

$24m \times \dfrac{1ft}{0.3048m} = 78.74ft.$

Jo need 79ft of fence.