§ 1 Trigonometry

1. Calculate the length of the side marked $x$ in each triangle below.

(a) \[ \triangle \text{ with sides } x, 17, 19, \text{ and } 50^\circ \]

(b) \[ \triangle \text{ with sides } x, 11, \text{ and } 55^\circ \]

(c) \[ \triangle \text{ with sides } x, 23, \text{ and } 60^\circ \]

(d) \[ \triangle \text{ with sides } 32^\circ, x, \text{ and } 19 \]

(e) \[ \triangle \text{ with sides } 3, x, \text{ and } 70^\circ \]

(f) \[ \triangle \text{ with sides } x, 7.2, \text{ and } 68^\circ \]

2. Find the size of angle $x$ in each diagram.

(a) \[ \triangle \text{ with sides } 7, 12, \text{ and } x \]

(b) \[ \triangle \text{ with sides } 9, 13, \text{ and } x \]

(c) \[ \triangle \text{ with sides } 22, 16, \text{ and } x \]

(d) \[ \triangle \text{ with sides } 27, x, \text{ and } 23 \]

(e) \[ \triangle \text{ with sides } x, 9.3, \text{ and } 2.5 \]

(f) \[ \triangle \text{ with sides } x, 7.8, 6.4 \]
§ 2 Change the Subject of the Formula

1. Change the subject of the formula to \( k \).
\[
T = kx - s
\]

2. Change the subject of the formula to \( h \).
\[
S = \frac{rh}{m}
\]

§ 3 Mixed

1. A two pound coin is made up of a silver coin of diameter 22mm surrounded by a gold coloured ring. The diameter of the whole coin is 32mm.
   Calculate (a) the circumference of the whole coin
   (b) the area of the whole coin
   (c) the area of the silver part of the coin
   (d) the area of the gold part of the coin.

2. Calculate the perimeter and area of the following shapes.

   a) 
   
   b) 
   
   c) 

3. Solve the following equations

   (a) \( 7x - 8 = 6 \) \hspace{1cm} (b) \( 9w - 4 = 4w + 11 \)
   
   (c) \( 8b + 4 = 5b + 37 \) \hspace{1cm} (d) \( 9(x - 3) = 18 \)