

# C2: Taflen Fformiwlâu

## Rheol y Trapesiwm

$$\int_a^b y \, dx \approx \frac{h}{2} \{ (y_0 + y_n) + 2(y_1 + y_2 + \dots + y_{n-1}) \}, \text{ lle mae } h = \frac{b-a}{n}.$$

Enghraifft:  $\int_1^2 \sqrt{2+x^3} \, dx$

efo 5 mesuryn:

$$2 - 1 = 1; 1 \div 4 = 0.25.$$

$x$	$f(x)$
1	1.732050808
1.25	1.988246715
1.5	2.318404624
1.75	2.712816802
2	3.16227766

TABLE MODE  
ar gyfrifiannell

$$\int_1^2 \sqrt{2+x^3} \, dx \approx \frac{0.25}{2} \{ 1.732050808 + 3.16227766 + 2(1.988246715 + 2.318404624 + 2.712816802) \} = \frac{0.25}{2} \times 18.93326475 = 2.367 \text{ i 3 lle degol.}$$

5-1=4

## Cyfes Rifyddol

Term Cyntaf  $a$ .

Gwahaniaeth Cyffredin  $d$ .

Nfed Term  $t_n = a + (n-1)d$ .

Swm yr  $n$  term cyntaf:

$$S_n = \frac{n}{2} [2a + (n-1)d].$$

PRAWF

## Cyfes Geometrig

Term Cyntaf  $a$ .

Cymhareb Gyffredin  $r$ .

Nfed Term  $t_n = ar^{n-1}$ .

Swm yr  $n$  term cyntaf:

$$S_n = \frac{a(1-r^n)}{1-r}.$$

PRAWF

Os yw  $|r| < 1$  yna  $S_\infty = \frac{a}{1-r}$ .

## Logarithm

Os yw  $a^x = b$  yna  $x = \log_a b$ .

Rheolau:

$$\log_a(xy) = \log_a x + \log_a y.$$

$$\log_a\left(\frac{x}{y}\right) = \log_a x - \log_a y.$$

$$\log_a(x^n) = n \log_a x.$$

PRAWF

## Integru

$$\text{Mae } \int ax^n \, dx = \frac{ax^{n+1}}{n+1} + k.$$

$$\text{Mae } \int_p^q ax^n \, dx = \left[ \frac{ax^{n+1}}{n+1} \right]_p^q$$

## Trigonometreg

$$\text{Rheol Sin: } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{neu } \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}.$$

Rheol Cosin:

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\text{neu } \cos A = \frac{b^2 + c^2 - a^2}{2bc}.$$

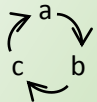
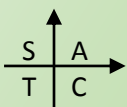
$$\text{Arwynebedd Triongl} = \frac{1}{2} ab \sin C.$$

$$\sin^2 x + \cos^2 x = 1.$$

$$\sin^2 x = 1 - \cos^2 x.$$

$$\cos^2 x = 1 - \sin^2 x.$$

$$\tan x = \frac{\sin x}{\cos x}.$$



## Hafaliad Cylch

Hafaliad cylch  $C$  efo canol  $(a, b)$  a radiws  $r$ :

$$(x-a)^2 + (y-b)^2 = r^2 \text{ neu } x^2 + y^2 + 2gx + 2fy + c = 0,$$

ble mae  $r = \sqrt{g^2 + f^2 - c}$ ;

$$(a, b) = (-g, -f).$$

Mae tangiad a radiws yn cyfarfod ar ongl sgwâr, felly graddiant y tangiad yw negatif cilydd graddiant y radiws.

Croestoriad dau gylch  $C_1$  ag  $C_2$  efo canolau  $A, B$ ; radiysau  $r_1, r_2$ :

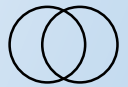
**Dim** croestoriad:

Hyd  $AB > r_1 + r_2$ .



**Dau** groestorfan:

Hyd  $AB < r_1 + r_2$ .



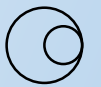
**Un** croestorfan (y cylchoedd yn cyffwrdd yn allanol):

Hyd  $AB = r_1 + r_2$ .



**Un** croestorfan (y cylchoedd yn cyffwrdd yn fewnol):

Hyd  $AB = r_1 - r_2$ .



## Hyd Arc ac Arwynebedd Sector

*Radian Mode* ar gyfrifiannell.

Hyd Arc =  $r\theta$ .

$$\text{Arwynebedd Sector} = \frac{1}{2} r^2 \theta.$$

$$\text{Arwynebedd Triongl} = \frac{1}{2} r^2 \sin \theta.$$

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