

## C1: Cwestignau Eraill

### Gaeaf 2005

⑥ Cramlin C:  $y = 4x^2 - 7x + 11$   
Llinell L:  $y = 5x + K$

I ddarganfydd ble mae C yn croestorri L rhaid datrys yr hafaliad

$$4x^2 - 7x + 11 = 5x + K$$

$$4x^2 - 12x + 11 - K = 0$$

Mae L ag C yn croestorri mewn dau bwynt gnahanadwy felly mae  $b^2 - 4ac > 0$

$$(-12)^2 - 4(4)(11 - K) > 0$$

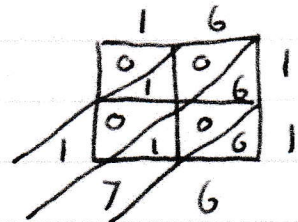
$$144 - 16(11 - K) > 0$$

$$144 - 176 + 16K > 0$$

$$-32 + 16K > 0$$

$$16K > 32$$

$$K > 2 \quad \checkmark$$



### Haf 2006

⑧ (a)  $1 - 5x < x + 8$   
 $-5x - x < 8 - 1$   
 $-6x < 7$   
 $x > -\frac{7}{6}$

(b)  $(x+8)(x+1) < 3x$   
 $x^2 + x + 8x + 8 < 3x$   
 $x^2 + 9x + 8 - 3x < 0$   
 $x^2 + 6x + 8 < 0$   
 $(x+2)(x+4) < 0$

Pwyntiau critigol  $x = -2$ ,  $x = -4$

$x^2 + 6x + 8$  felly siâp  $\cup$

Datrysiaid  $-4 < x < -2$

Gaeaf 2007

⑥ (a)  $y = 2x^5 + \frac{24}{x^2} - 3\sqrt{x}$

$$y = 2x^5 + 24x^{-2} - 3x^{\frac{1}{2}}$$
$$\frac{dy}{dx} = 10x^4 - 48x^{-3} - \frac{3}{2}x^{-\frac{1}{2}}$$

$$\left( \frac{dy}{dx} = 10x^4 - \frac{48}{x^3} - \frac{3}{2\sqrt{x}} \right)$$

(b)  $y = x^2(3x+1)$

$$y = 3x^3 + x^2$$

$$\frac{dy}{dx} = 9x^2 + 2x$$

Haf 2009

④ (b)  $y = x^2 - x - 7$

$$y = 2x + 3$$

Croestoriadau:  $x^2 - x - 7 = 2x + 3$

$$x^2 - 3x - 10 = 0$$

$$(x-5)(x+2) = 0$$

Unai  $x-5=0$  neu  $x+2=0$

$$\underline{x=5}$$

$$\underline{x=-2}$$

Felly, yn amnewid yn ôl i  $y = 2x + 3$ :

$$y = 2 \times 5 + 3$$

$$y = 2 \times -2 + 3$$

$$\underline{y = 13}$$

$$\underline{y = -1}$$

Dehongliad geometregol: Mae'r gromlin  $y = x^2 - x - 7$  a'r llinell  $y = 2x + 3$  yn croestorri yn y pwyntiau  $(-2, -1)$  a  $(5, 13)$ .

④ (a) (i)  $x^2 + 8x + 5 = (x+4)^2 - 4^2 + 5$   
 $= (x+4)^2 - 16 + 5$   
 $= (x+4)^2 - 11$

Felly mae  $a=4$ ,  $b=-11$ .

(ii)  $3x^2 + 24x + 15 = 3(x^2 + 8x + 5)$   
 $= 3((x+4)^2 - 11)$ .

Felly gwerth lleiaf  $3x^2 + 24x + 15$  yw  $3x - 11 = -33$ .  
Gwerth cyfatebol  $x$  yw  $x = -4$ .

(b)  $y = x^2 - x - 9$        $y = 2x - 5$

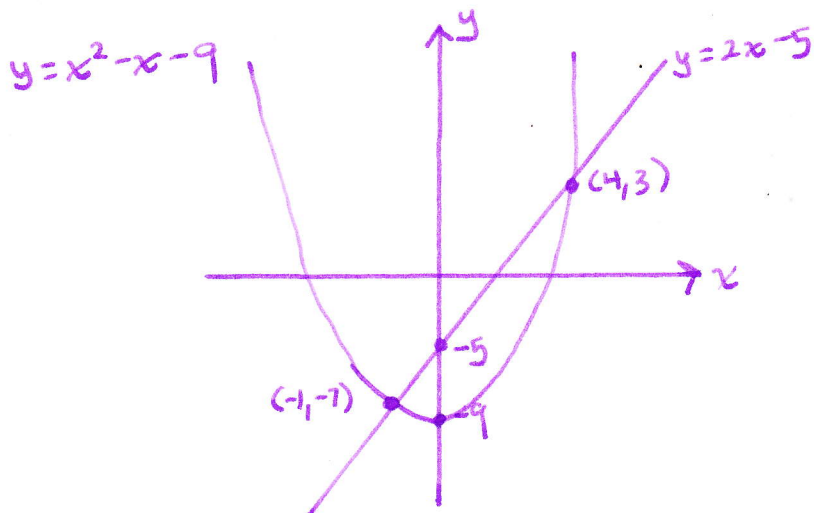
Felly  $x^2 - x - 9 = 2x - 5$   
 $x^2 - 3x - 4 = 0$   
 $(x-4)(x+1) = 0$

Unai  $x-4=0$  neu  $x+1=0$   
 $x=4$        $x=-1$

Felly  $y = 2x - 5$   
 $y = 2(4) - 5$   
 $y = 8 - 5$   
 $y = 3$

Felly  $y = 2x - 5$   
 $y = 2(-1) - 5$   
 $y = -2 - 5$   
 $y = -7$

Dehongliad geometregol: Mae'r hafaliadau  $y = x^2 - x - 9$  ac  $y = 2x - 5$  yn croestorri yn y pwyntiau  $(4, 3)$  a  $(-1, -7)$ .



ci Haf 2016

⑤ a)  $x^2 + 4x - 8 = (x+2)^2 - 2^2 - 8$   
 $= (x+2)^2 - 4 - 8$   
 $= (x+2)^2 - 12$   
(felly  $a=2$ ,  $b=-12$ ).

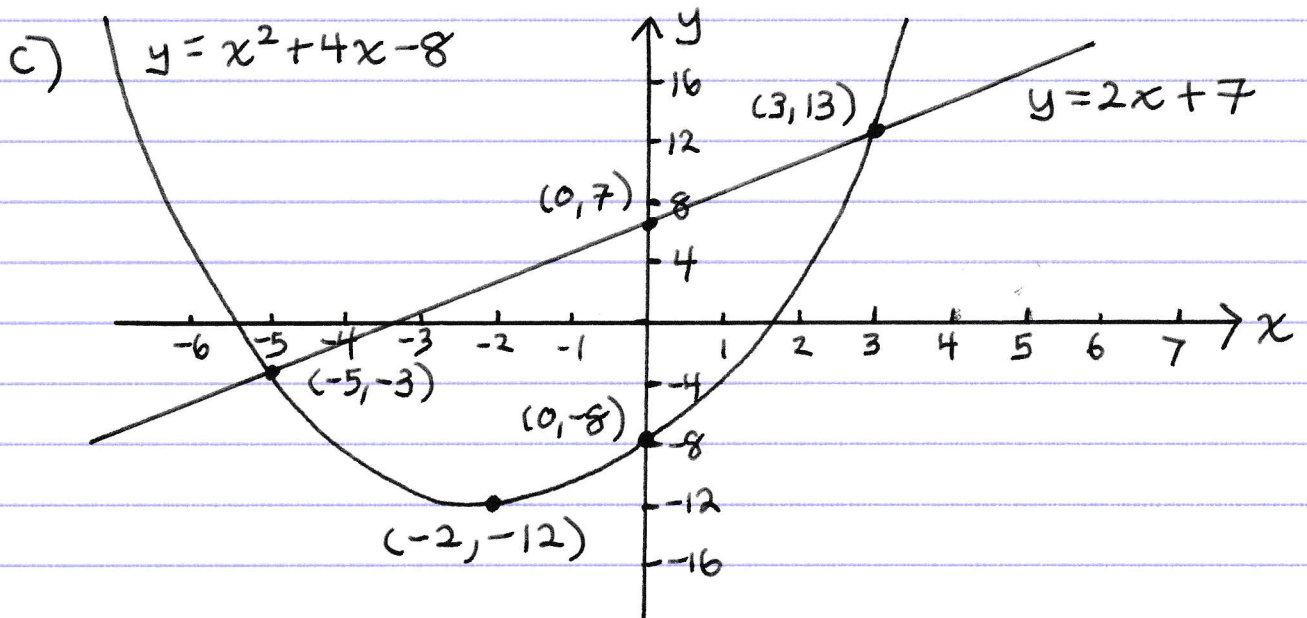
b)  $y = x^2 + 4x - 8$        $y = 2x + 7$

$x^2 + 4x - 8 = 2x + 7$   
 $x^2 + 4x - 2x - 8 - 7 = 0$   
 $x^2 + 2x - 15 = 0$   
 $(x+5)(x-3) = 0$

Naill ai  $x+5=0$       neu  $x-3=0$   
 $x=-5$        $x=3$

Felly  $y = 2x - 5 + 7$       Felly  $y = 2x3 + 7$   
 $y = -10 + 7$        $y = 6 + 7$   
 $y = -3$        $y = 13$

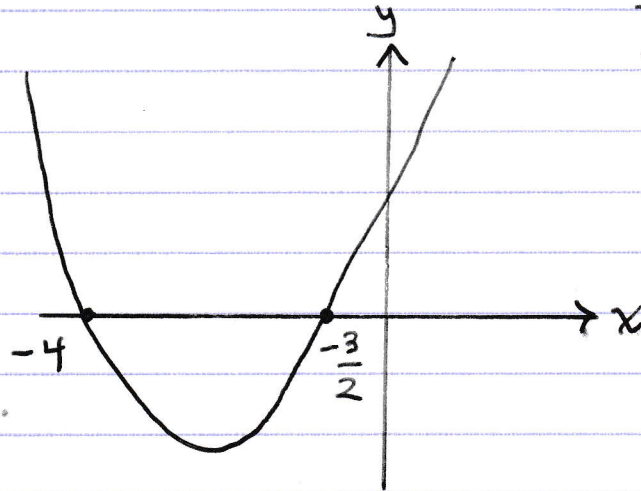
Ma' ergromlin a'r llinell yn croestorri yn  $(-5, -3)$  a  $(3, 13)$ .



CI Haf 2017

6)  $2x^2 + 11x + 12 \geq 0$   
 $(2x + 3)(x + 4) \geq 0$

Pwyntiau critigol: Naill ai  $2x + 3 = 0$  neu  $x + 4 = 0$   
 $2x = -3$   $x = -4$   
 $x = -\frac{3}{2}$



Ateb: Naill ai  $x \leq -4$  neu  $x \geq -\frac{3}{2}$

C1 Haf 2018

6)  $9x^2 + 16x - 4 > 0$

$$9x - 4 = -36$$

A	L1
16	-36

$$18 + -2 = 16$$

$$18x - 2 = -36$$

$$9x^2 + 18x - 2x - 4 > 0$$

$$9x(x+2) - 2(x+2) > 0$$

$$(9x-2)(x+2) > 0$$

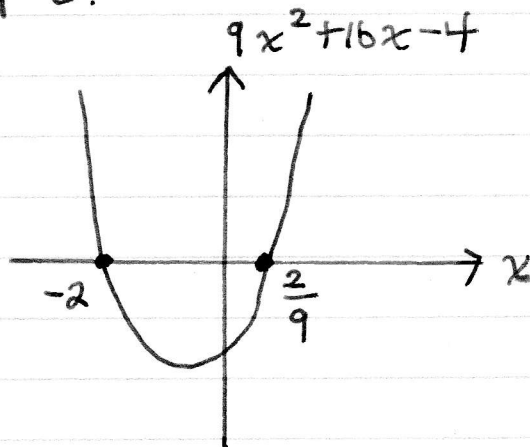
Gwerthoedd critigol: Naill ai  $9x - 2 = 0$  neu  $x + 2 = 0$

$$9x = 2$$

$$x = -2$$

$$x = \frac{2}{9}$$

$9x^2$  felly siâp U.



Ateb: Naill ai  $x < -2$  neu  $x > \frac{2}{9}$