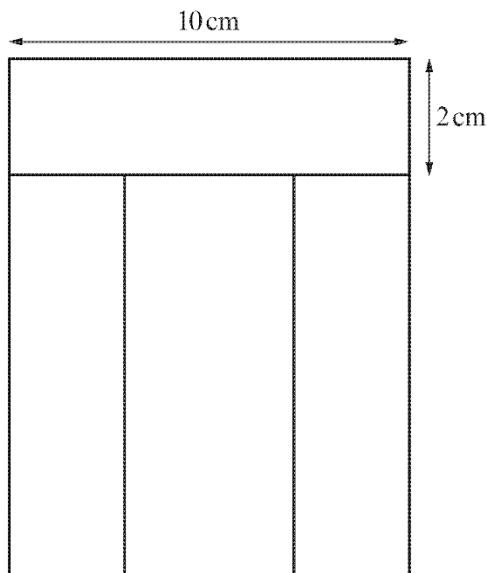


Siapiau Cyfansawdd

1.

Mae tri phetryal unfath (*identical*), gyda phob un yn 10 cm wrth 2 cm, yn cael eu gosod i wneud y siâp sy'n cael ei ddangos yn y diagram.



Nid yw'r diagram wedi'i luniadu wrth raddfa

(a) Cyfrifwch berimedr y siâp.

.....

.....

.....

[3]

(b) Cyfrifwch arwynebedd y siâp.
Ysgrifennwch unedau eich ateb.

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.....

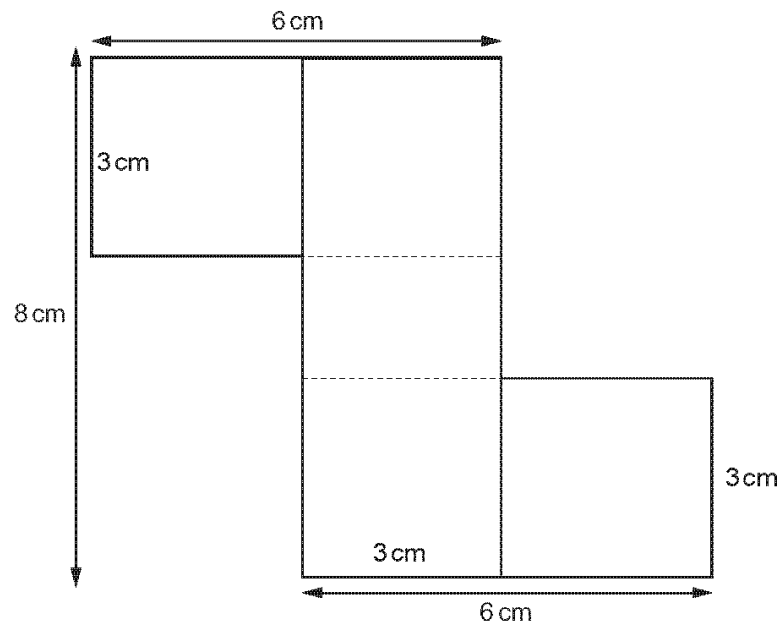
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[3]

2.

Mae petryal 8 cm wrth 3 cm yn cael ei osod ar ben dau betryal 6 cm wrth 3 cm i wneud y siâp sy'n cael ei ddangos yn y diagram.



Nid yw'r diagram wedi'i luniadu wrth raddfa

(a) Cyfrifwch berimedr y siâp.

[3]

.....

.....

.....

(b) Cyfrifwch arwynebedd y siâp.
Ysgrifennwch unedau eich ateb.

[3]

.....

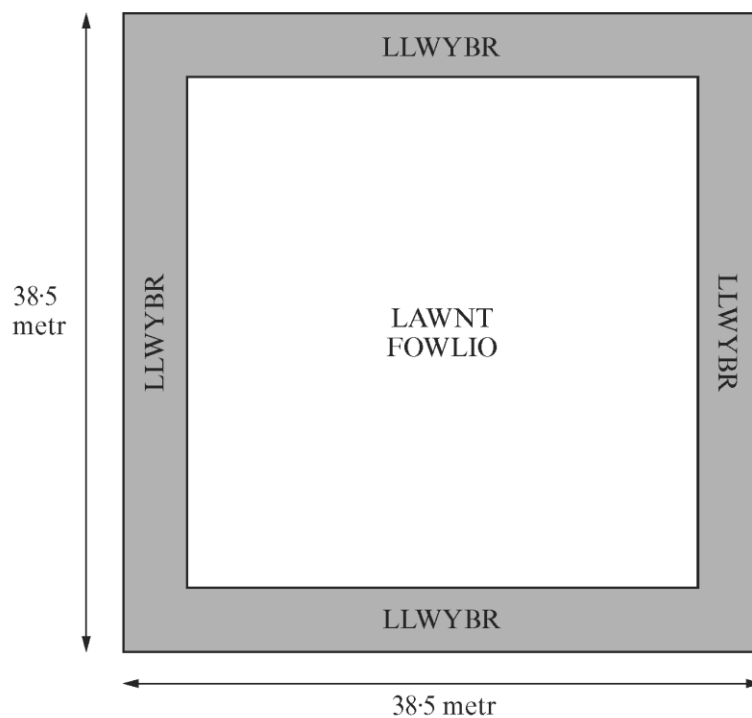
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3.

Penderfynodd y cyngor lleol osod llwybr concrit â'i led yn $1\frac{1}{2}$ metr o amgylch eu lawnt fowlio (*bowling green*), fel sy'n cael ei ddangos yn y diagram.



Nid yw'r diagram wedi'i luniadu wrth raddfa

Cyfrifwch arwynebedd y llwybr concrit, mewn metrau sgwâr.

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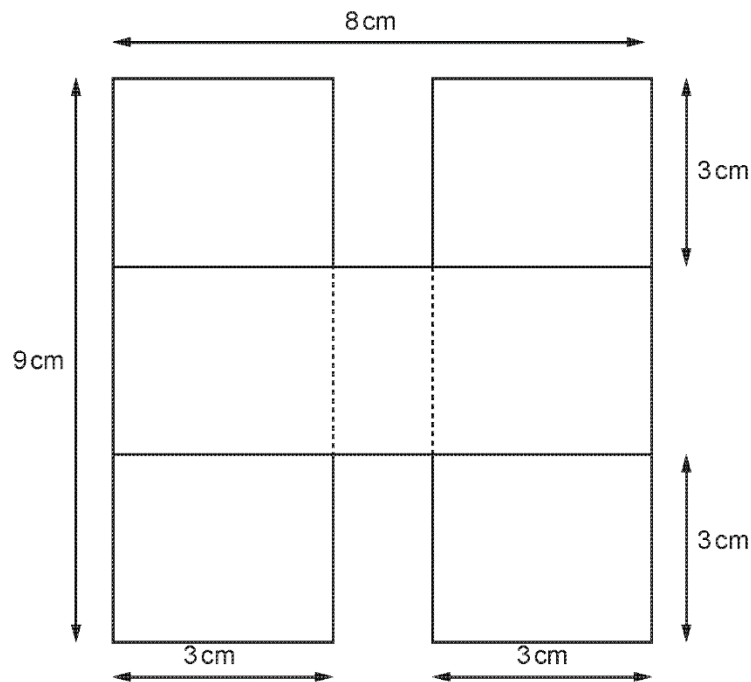
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[6]

4.

Mae dau betryal, gyda phob un yn 9 cm wrth 3 cm, a phetryal gorymylol (*overlapping*), 8 cm wrth 3 cm, yn cael eu gosod fel eu bod yn gwneud y siâp H sy'n cael ei ddangos yn y diagram.



Nid yw'r diagram wedi'i luniadu wrth raddfa

(a) Cyfrifwch berimedr y siâp.

[3]

.....

.....

.....

(b) Cyfrifwch arwynebedd y siâp.
Ysgrifennwch unedau eich ateb.

[3]

.....

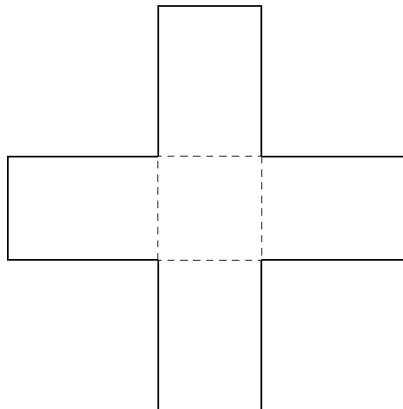
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5.

Mae patrwm sydd â siâp croes yn cael ei wneud drwy drefnu pedwar petryal unfath (*identical*) o amgylch ochrau sgwâr, fel sy'n cael ei ddangos yn y diagram isod.



Nid yw'r diagram wedi'i luniadu wrth raddfa

Arwynebedd y sgwâr yw 36 cm^2 .

Mae arwynebedd pob petryal unwaith a hanner cymaint ag (*one and a half times*) arwynebedd y sgwâr.

Darganfyddwch berimedr y patrwm sydd â siâp croes.

Dangoswch eich holl waith cyfrifo a **nodwch unedau eich ateb.**

[5]

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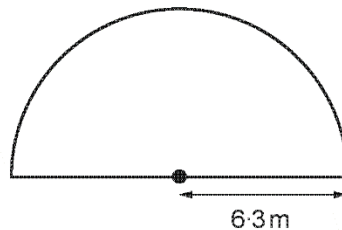
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6.

Mae gan gwmni hanner cylch mawr fel rhan o'i logo.
Mae'r cwmni'n bwriadu peintio'r logo ar un o waliau ei bencadlys (*headquarters*).
Mae un tun o baent yn peintio 15 m^2 .

Cyfrifwch nifer y tuniau o baent mae angen i'r cwmni eu prynu i beintio hanner cylch sydd â'i radiws yn 6.3 m ar y wal. [4]



Nid yw'r diagram wedi'i luniadu wrth raddfa

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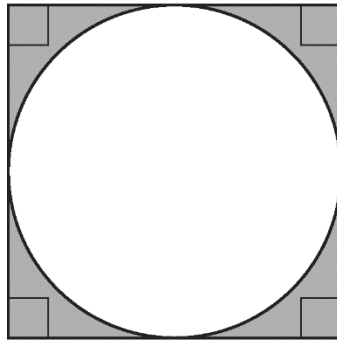
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7.



Nid yw'r diagram wedi'i luniadu wrth raddfa

Yn y diagram uchod, diamedr y cylch yw 12 cm.
Cyfrifwch arwynebedd y rhan sydd wedi'i thywyllu.

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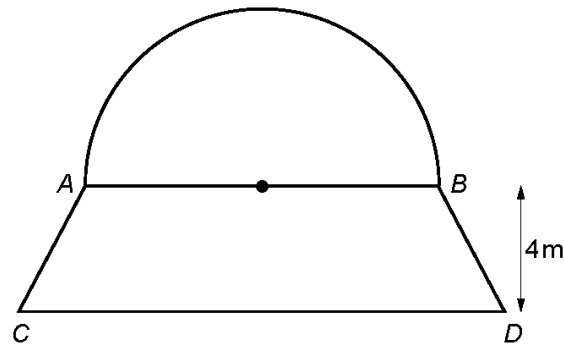
[4]

8.

Mae cwmni sy'n noddi cystadleuaeth chwaraeon yn bwriadu peintio ei logo ar y cae.

Mae'r logo ar siâp hanner cylch ar ben trapesiwm fel sy'n cael ei ddangos isod.

Mae $AB = 10\text{ m}$, mae $CD = 16\text{ m}$ ac uchder y trapesiwm yw 4 m .



Nid yw'r diagram wedi'i luniadu wrth raddfa

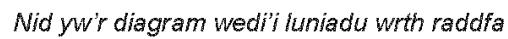
Mae'r cwmni wedi prynu digon o baent i beintio arwynebedd o 125m².

Pa ganran o'r paent hwn bydd ei angen i beintio arwynebedd y logo?

[6]

This image shows a full page of white paper with horizontal dashed lines, typical of primary school handwriting practice paper. The lines are evenly spaced and run across the entire width of the page. There are no margins, text, or other markings present.

Mae dimensiynau cae chwarae $ABCDEF$ yn cael eu dangos yn y diagram isod.



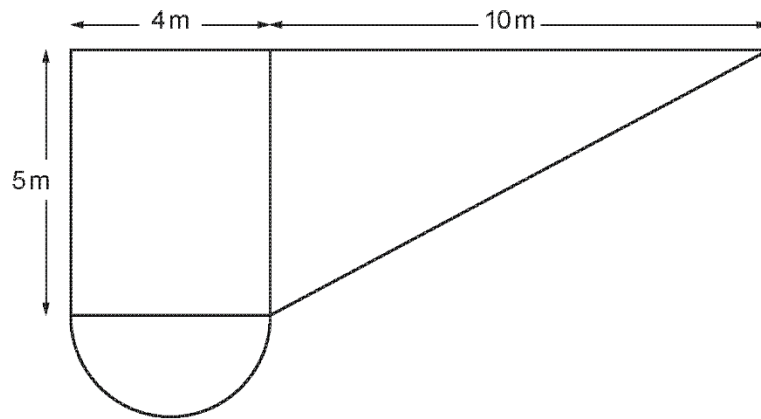
Cyfrifwch arwynebedd y cae chwarae.

[4]

[illegible]

10.

Mae logo cwmni yn cael ei ddangos ar y tu allan i wal ei ffatri.
Mae siâp y logo yn cael ei wneud gan ddefnyddio petryal, triongl ongl sgwâr a hanner cylch, fel sy'n cael ei ddangos yn y diagram isod.
Mae rhai o'r hydoedd yn cael eu dangos yn y diagram.



Nid yw'r diagram wedi'i luniadu wrth raddfa

Cyfrifwch arwynebedd cyfan y logo hwn. Rhwch eich ateb yn gywir i 1 lle degol. [5]

[illegible]

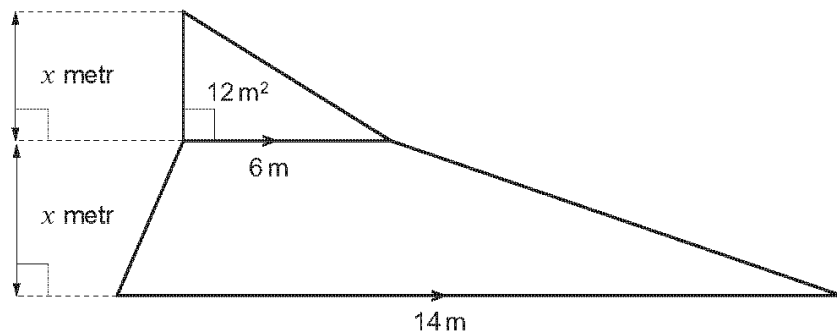
11.

Mae'r diagram yn dangos hwyl (*sail*).

Triongl yw rhan uchaf yr hwyl, ac uchder perpendicwlar y triongl yw x metr.

Trapesiwm yw rhan isaf yr hwyl ac uchder perpendicwlar y trapesiwm yw x metr.

Arwynebedd y triongl yw 12 m^2 .



Nid yw'r diagram wedi'i luniadu wrth raddfa

Cyfrifwch arwynebedd y trapesiwm.

[4]

[illegible]

Diamedr y cylch yw XZ. Mae canol y cylch yn C.
 Triongl ongl-sgwâr yw XYZ.
 Mae $XY = 8\text{ cm}$ ac $YZ = 6\text{ cm}$.

- radiws y cylch,
- arwynebedd cyfan y rhanbarthau sydd wedi'u tywyllu.

This image shows a blank sheet of white paper with horizontal dashed lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the paper.

Cynllun Marcio

1.

5. (a) Missing side segment = 6 Perimeter = $10+2+10+2+10+6+10+2+10+2$ = 64 (cm)	S1 M1 A1	<u>This may be implied by some correct methods</u> Attempt to add all sides of the shape C.A.O.
5. (b) Area = $3 \times 10 \times 2$ = 60 cm ²	M1 A1 U1 6	OR equivalent C.A.O. Independent of all other marks. <u>Watch out as the area of the 'gap' is also 60.</u>

2.

2015 Summer Linear Paper 1 (Non calculator) Foundation Tier	Marks	Comments
<u>To be viewed with diagram</u> 6. (a) Missing inside segments = 2 or 5 (and 3) Perimeter = $6+3+2+3+3+6+3+2+3+3$ = 34 (cm)	S1 M1 A1	One 2 or 5 in correct place gets S1 Attempt to add all sides of the shape FT 'their 2' for possible M1 If the 2 is not shown on diagram but is in the sum of sides for the perimeter then award S1 here. C.A.O
<u>To be viewed with diagram</u> 6. (b) Area = $6 \times 3 + 2 \times 3 + 6 \times 3$ OR $3 \times 3 + 3 \times 8 + 3 \times 3$ OR $4 \times 3 \times 3 + 3 \times 2$ = 42 cm ²	M1 A1 U1	<u>You must check the diagram and their value for '2' or '5' in their part (a)</u> Attempt to add all areas of the shape F.T. if missing sides (even incorrect) are clearly indicated Independent of all other marks.

3.

8. Area of whole = 38.5^2 = 1482.25 One Dimension of green = 35.5 Area of green = (35.5^2) 1260.25 Area of path = $1482.25 - 1260.25$ = 222 square metres <u>Alternative method 1</u> M1 38.5×1.5 M1 35.5×1.5 A1 for either 57.75 or 53.25 B1 for both 115.5 and 106.5. M1 $115.5 + 106.5$ A1 222 square metres <u>Alternative method 2</u> M1 $38.5 \times 1.5 (= 57.75)$ A1 $(57.75 \times 4 =)$ 231 M1 $1.5 \times 1.5 (= 2.25)$ A1 $(2.25 \times 4 =)$ 9 M1 $231 - 9$ A1 222 square metres	M1 A1 B1 B1 M1 A1	FT their $1482.25 -$ their 1260.25 FT their 2×57.75 and 2×53.25 FT provided M1, A1 and B1 awarded FT provided both M marks awarded and one A mark
	6	

4.

(a) 46 cm

(b) 60 cm²

5.

2015 November UNIT 3 (calculator allowed) Foundation Tier	Mark	FINAL MARK SCHEME Comments
11. Length of side of the square = width of rectangle=6(cm) Length of each rectangle = 9(cm) $8 \times 9 + 4 \times 6$ Or equivalent. = 96 cm	B1 B1 M1 A1 U1 5	FT 'their' length and width of rectangle. If B0 B0 M0 A0 awarded, SC1 for area of rectangle = 54(cm ²).

6.

19. (Area of semi-circle =) $\pi \times 6 \cdot 3^2 / 2$ = 62.3 to 62.4 (m ²) (Number of tins of paint needed =) $(\pi \times 6 \cdot 3^2 / 2) \div 15$ = 5(tins)	M1 A1 M1 A1 4	FT 'their area' provided π used in the calculation. Provided of equivalent difficulty.
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7.

15. (area of square =) 144 (area of circle =) $\pi \times 6^2$ 113 to 113.1428..... (area of shaded part =) 30.857..... to 31 cm ²	B1 M1 A1 A1 4	FT 'their area of square' – 'their area of circle' provided M1 awarded
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8.

November 2015 UNIT 1 Higher	Mark	FINAL MARK SCHEME Comments
7. (Area semicircle =) $\frac{\pi \times 5^2}{2}$ = 39.27(m ²) OR $25\pi/2$ or equivalent.	M1 A1	Accept 39.2 to 39.3 inclusive. SC1 for any of the following 78.5 to 78.6 inclusive OR 25π OR $157(\dots)$ OR 50π .
(Area of trapezium =) $\frac{(10 + 16) \times 4}{2}$ = 52(m ²)	M1 A1	Allow M1 for intent e.g. $10 + 16 \div 2 \times 4$ C.A.O.
(% of paint required =) $\frac{39.27 + 52}{125} (\times 100)$ = 73(.01..%)	M1 A1 6	F.T. 'their areas'

9.

June 2015 UNIT 1 Higher	✓	Mark	Comments
4. Sight of (area of ABCF =) 2000(m ²) (Area of FCDE =) $\frac{(50+10)}{2} \times 20$ = 600(m ²) (Total area =) 2600(m ²)	✓ ✓ ✓ ✓	B1 M1 A1 A1	Allow M1 for correct intent, e.g missing brackets '50+10 × 0.5 × 20'. C.A.O. F.T. 'sum of their two values'.

10.

13. 5×4 (+) $\frac{10 \times 5}{2}$ (+) $\frac{\pi \times 2^2}{2}$	M2	M1 for one or two correct.
= 20 (+) 25 (+) 6.28(...)	A2	A1 for 20 AND 25, A1 for 6.28(...) or 6.3
= 51.3(m ²)	A1	F.T. provided M1A1 gained and three values added with an answer given to 1 d.p.
	5	

11.

Linear GCSE Mathematics Higher Tier November 2015 Paper 1		FINAL MARK SCHEME Comments
5. Use of area = $\frac{1}{2}$ base $\times$ height, e.g. $12 = \frac{1}{2} \times x \times 6$ (x =) 4 (metres) Area trapezium is $\frac{1}{2} \times x \times (6 + 14)$ 40 (m ²)	M1 A1 M1 A1 4	Accept written informally but must include relevant values Must show substitution for x. FT substitution of 'their derived x', or unsupported 4 (m) Do not FT from spurious a measurement for x, only FT if working is seen to derive x <i>Alternative for area of the trapezium, with diagonal splitting into 2 triangles, with the same height, areas of these triangles are 12m² and $12 \times 14/6 = 28m^2$</i>

12.

XZ ² = 8 ² + 6 ² (= 100) (XZ = 10) Radius of the circle = 5cm Area of triangle XYZ = $\frac{1}{2} \times 6 \times 8$ = 24 (cm ²) Area of circle = $\pi \times 5^2$ = 78.5(398...) Area shaded = 54.5 (cm ²)	M1 A1 M1 A1 M1 A1 B1 7	Correct substituted Pythagoras C.A.O. F.T. their radius if first M1 awarded. F.T. provided at least one of the M marks for area previously awarded. Allow B1 for an answer of 54 or 55.
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