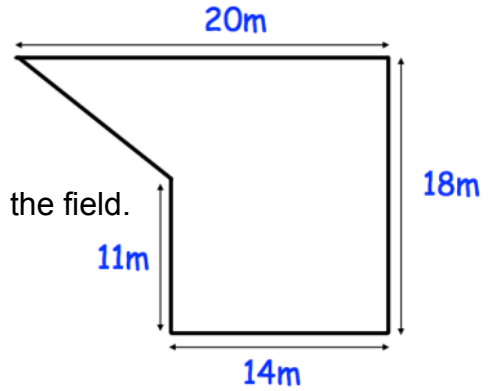


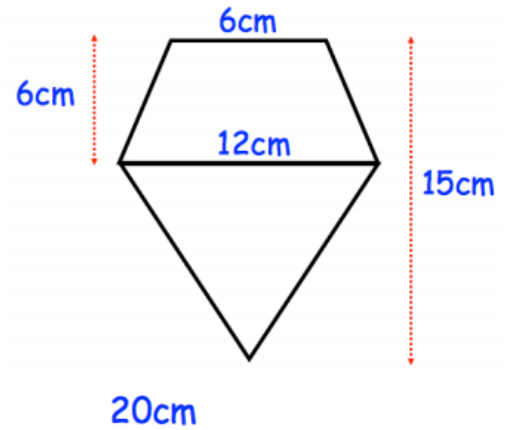
Maths HL8 Core – Mixed questions

1. Shown is the plan of a small field.
Thomas is going to keep some chickens in the field.
Each chicken needs 5m^2 .

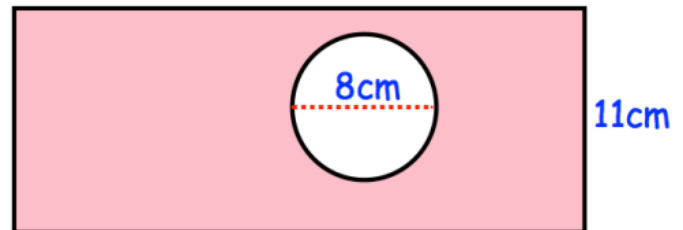
Work out the greatest number of chickens Thomas can keep in the field.



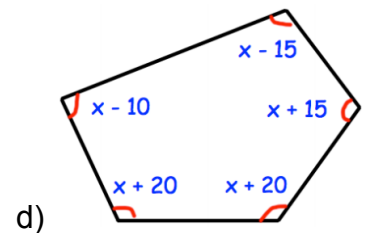
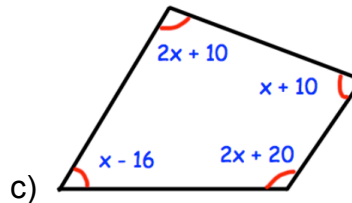
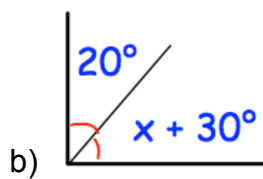
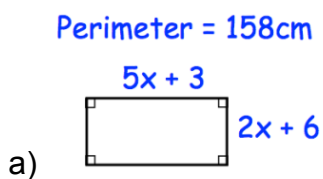
2. Bea makes a logo for a club in school.
Work out the area of the logo.



3. The diagram shows a rectangle with a circle cut out.
The rectangle has length 20cm and width 11cm.
The circle has diameter 8cm.
Work out the shaded area.
Give your answer correct to 2 decimal places.



4. For each of the following, calculate x



5. Factorise the following:

a) $3xy + 2x^2$

b) $4x + 2x^2 + 6x^3$

c) $4ab - 16a^2 + 2abc$

6. Solve the following:

a) $8(3x - 1) = 160$

b) $3x - 4 = x + 4$

c) $7(3x + 2) = -4(1 - 4x)$