S2 Mixed Revision 1 **Name**_____ **Date** _____

Q1. Given that $a=3,\ b=5$ and $c=-2,$ find:

(a) $3b+2c$ (b) b^2-a^2 (c) $ab-ac$

Q2. Remove the brackets and simplify:

(a) $(a+4)(a+1)$ (b) $(b-4)(b+3)$

(c) $(3-c)(5+c-c^2)$

Q3. Solve the following inequalities:

(a) $5x-7<8$ (b) $2x+4(x-3)>6$ (c) $5x+3\le 3x+15$

Q4. (a) Anne and Ben have a combined age of 25.
Write down an equation to represent this information.

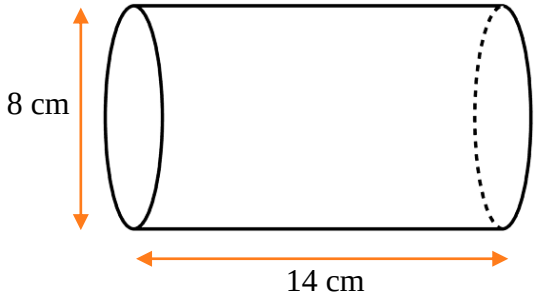
(b) Anne is 7 years older than Ben.
Write down an expression for Anne's age in terms of Ben's age.

(c) Substitute your expression from part (b) into your equation from part (a) and solve to find both their ages.

Q5. £15 000 is deposited in a bank account offering 4.5% interest p.a.
Assuming no money is withdrawn from the account, how much *interest* will have been earned by the end of the 5^{th} year?

Q6. A pair of shoes is reduced in a sale by 15% to £38.25.
What did they cost before the sale?

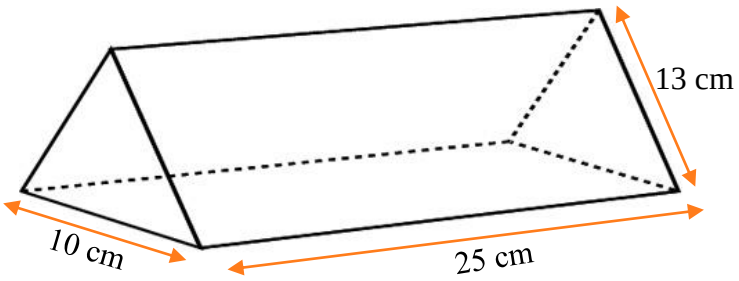
Q7. Calculate, to one decimal place, the volume and total surface area of this closed cylinder.



(a) Volume

(b) Total surface area

Q8. Calculate the volume and surface area of this triangular prism.



(a) Volume

(b) Total surface area