1. A shopkeeper bought x apples for y pence. Find :

(*a*) the cost of a dozen.

(*b*) how many could be bought for £1.

(*c*) the profit, if all the apples are sold for 10s.

(*d*) the profit %.

2. Factorize :

(*a*) $2ab-2a-b+1$;

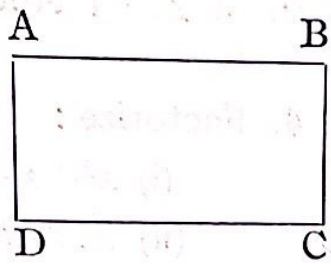
(*b*) $x^2-13x-90$;

(*c*) $2(x+1)(x+2)+(x+6)(x-2)$.

3. If $A=\frac{1}{2}x-1$, and $B=x+2$, find the value of $4A^2-B^2$ when $x=-\frac{1}{2}$.

4. What number does K stand for if $x-4$ is a factor of $x^3-4x^2-36x+K$? Find the other factors.

5. ABCD is a rectangular plot.
AB$=2(x+1)$ feet,
BC$=1\frac{1}{2}$ yards,
DC$=60x-84$ inches.



Find :

(*a*) the length of the perimeter.

(*b*) the area of the plot.

6. (*a*) What is the value of $4x^2-x$ when $x=-\frac{3}{4}$?

(*b*) Solve the equation 0·5% of $x=0{\cdot}0125$.

(*c*) What value of x would make
$\frac{2}{3}(3x-4)$ less than $\frac{1}{2}(2x+1)$ by 4 ?

7. A had 29s. more than B. If A gives 4s. to B he will have twice as much as B will have. How much had each at first ?

8. (*a*) If one side of a square is increased by 5% and the adjacent side reduced by 5%, show that the area is lessened. By how much % is it lessened?

(*b*) A rectangle is x feet long and y feet wide. Write down an expression for the new area if the length is increased by 50%, and the breadth by $33\frac{1}{3}$%. Show from the expression that the area is increased by 100%.