Problems on Trains

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Imp formulae

1. a km/hr $= \left(a \times \frac{5}{18}\right)$ m/s

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2. Time taken to pass a pole $\neq l$(m)
   Time taken to pass b meters object is $(l+b)$ metres

3. Two trains same direction
   Relative speed $= u - v$ (if $u > v$)

4. Two trains opposite direction
   Relative speed $= u + v$

5. Time taken to cross each other will be $\frac{(a+b)}{(u+v)}$ sec. [opposite direction]

6. same direction $\Rightarrow \left(\frac{a+b}{u-v}\right)$

7. A & B towards each other after crossing they take a and b sec in reaching B & A.

   (A's speed) : (B's speed) $= (\sqrt{b} : \sqrt{a})$