

## Races & games of skill - Solved Examples

**Q 1 - In a Km. race, A beats B by 40m or 8 seconds. Find A's time over the course.**

A - 1 min. 12 sec.

B - 2 min. 12 sec.

C - 3 min. 12 sec.

D - 4 min. 12 sec.

**Answer - C**

**Explanation**

Clearly, B covers 40 m in 8 seconds.

$\therefore$  B's time over the course =  $(8/40 \times 1000)$  sec. = 200sec.

A's time over the course =  $(200-8)$  sec. = 192 sec. = 3 min. 12 sec.

**Q 2 - A can run 1 km in 3 min.10sec. And B can cover the same distance in 3 min. 20 sec. By what distance can A beat B?**

A - 80 m

B - 70 m

C - 60 m

D - 50 m

**Answer - D**

**Explanation**

Clearly, A beats B by 10 sec.

Distance covered by B in 10 sec. =  $(1000/200 \times 10)m = 50m$

$\therefore$  A beat B by 50 m.

**Q 3 - In 100m race, A runs at 6 kmph. If A gives B a start of 4m and still beats him by 12 seconds, what is the speed of B?**

A - 1.8 km/hr

B - 2.8 km/hr

C - 3.8 km/hr

D - 4.8 km/hr

**Answer - D**

**Explanation**

Time taken by A to run 100m =  $(60 \times 60 / 6000 \times 100)$  sec. = 60 sec.

B covers  $(100-4)$  m in  $(60 + 12)$  sec.

$\therefore$  B's speed =  $96/72m/sec. = (96/72 \times 18/5)$  km/hr = 4.8 km/hr

**Q 4 - A, B, C are the three contestants in a km race. If A can give B a start of 40m and A can give C a start of 64m, how many meters start can B give C?**

A - 25 m.

B - 20 m.

C - 35 m.

D - 45 m.

**Answer - C**

**Explanation**

While A covers 1000m, B covers  $(1000-40)=960$ m and C covers  $(1000-64) =936$ m.

When B covers 960 m, C covers 936 m.

When B covers 1000m, C covers  $(936/960*1000)$ m =975m

$\therefore$  B gives C a start of  $(1000-975)$  m = 25 m.

**Q 5 - A can run 1 km in 4min. 50 sec. and B in 5 min. How many meters start A give B in a km race so that the race may end in a dead heat?**

A - 500/3 m

B - 400/3 m

C - 100/3 m

D - 200/3 m

**Answer - C**

**Explanation**

Time taken by A to run 1 km = 290 sec.

Time taken by B to run 1 km = 300 sec.

A can give B a start of  $(300-290) = 10$ sec.

In 300 sec, B runs  $(1000/300*10)$  m = 100/3 m

$\therefore$  A can give B start of 100/3 m.

**Q 6 - In a race of 600m, A can beat B by 60m and in a race of 500m, B can beat C by 50m. By how many meters will A beat C in a race of 400m?**

A - 46 m.

B - 56 m.

C - 66 m.

D - 76 m.

**Answer - D**

**Explanation**

If A runs 600m, B runs 540 m.

If A runs 400m, B runs  $(540/600 \times 400)$  m = 360m

When B runs 500m, C runs 450m.

When B runs 360 m, C runs  $(450/500 \times 360)$  m = 324 m.

$\therefore$  A beats C by  $(400-324)$  m = 76 m.