

Maths – London Underground Problem Solving

Zones	Cash single fare	One day travelcard Peak time (before 9.30am)	One day travelcard Off-peak time (after 9.30am)
1-2	£4.00	£7.20	£5.60
1-3	£4.00	£8.60	£6.30
1-4	£4.00	£10.00	£6.30
1-5	£4.50	£12.60	£7.50

Note:
children
under 5
travel free

1. Ealing Broadway to Marble Arch and back at 11.00am
Zone 1-3 off peak travelcard - £6.30
2. Finsbury Park to Oxford Circus and back at 8.30am
Zone 1-2 peak time travelcard - £7.20
3. Harrow-on-the-Hill to Wembley Park at 10.30am
Cash single fare Zones 1-5 - £4.50
4. Arnos Grove to London Bridge and back for 1 adult and 2 children under 5 at 9.00am
Zone 1-4 peak travelcard - £10.00, children are free
5. Ladbroke Grove to Charing Cross for 2 adults at 9.45am
Zone 1-2 cash single fare x2 - £8.00

Getting there.....

Tom is at South Kensington and needs to get to Bond Street. How many different routes can he take to get there? Which of these routes requires the least changes?

Kim is at Baker Street and is trying to get to Bank Station. How many different routes can she take to get there? Which of these routes requires the least changes?

Jerome is at Paddington Station and is trying to get to Piccadilly Circus Station. How many different routes can he take to get there? Which of these routes requires the least changes?

On the central line, an underground train takes 5 minutes between stations. On the Northern line it takes 3 minutes between stations. If Ryan starts at Bank station and Elaine starts at Embankment, who will get to Tottenham Court Road first?

Arsenal F.C. play at 3pm at the Emirates, ten minutes walk from the tube station Highbury and Islington, on the Victoria line. If John is at Victoria station and it takes 6 minutes between each station, what is the latest time would he need to leave at to make it to Highbury and Islington for kick off?

A performance of the Lion King is taking place at 8pm at Leicester Square, however Karen is having dinner at Victoria. She could take a 6 minute train to Green Park on the Victoria Line, and change to the Piccadilly Line where a train takes 7 minutes between stations. Her other option is to take a Circle Line train to Embankment, (which takes 4 minutes between each station) and then a Northern Line train to Leicester Square which takes 5 minutes between stations. Which route is quicker?

