

Year 5 Maths Challenge 22nd June—Questions

Harder Problems

H29 A train leaves Eltham station at 10.37, arriving at London Bridge at 11.05. On the way it stops at 4 stations, spending an average of 45 seconds at each station. For how many minutes between Eltham and London Bridge is it actually moving?

- A 21 B 22 C 25 D 28 E 31

H30 My name is Speedy. It takes me 3 minutes to cycle to school, which is half a mile away from my home. What is my average cycling speed?



- A 4 mph B 6 mph C 8 mph D 10 mph E 12 mph

H31 The Olympic Velodrome has a 250 m track. How many circuits does a cyclist have to do to complete a 30 km race?



- A 4 B 12 C 30 D 40 E 120

H32 Given that 1st November 2010 was a Monday, on what day did 1st December fall that year?

- A Monday B Tuesday C Wednesday
D Saturday E Sunday

H33 The dates below are for the reigns of five English kings. Which of these five kings was king for the longest time?

- | | | | | |
|-----------|------------|-------------|------------|-----------|
| A Henry I | B Henry II | C Henry III | D Henry IV | E Henry V |
| 1100 | 1154 | 1216 | 1399 | 1413 |
| -1136 | -1189 | -1272 | -1413 | -1422 |

H34 If $\# + \# + 15 = 5 \times \#$, then what does $\#$ equal?

- A 3 B 4 C 5 D 6 E 7

H35 Which of the numbers below makes its square when you multiply its value by the number of letters in its name?

- A 2 B 3 C 4 D 6 E 7

Harder Problems – Answers and Notes

H29 C 25 minutes

Stopping at four stations takes $4 \times 45 \text{ sec} = 180 \text{ sec} = 3 \text{ min}$.
There are 28 minutes between 10.37 and 11.05 so the train is moving for $28 - 3 = 25$ minutes.

H30 D 10 mph

Speedy cycles half a mile in 3 minutes, and so 1 mile in 6 minutes.

H31 E 120

Four circuits of the track make 1 km so 120 circuits make 30 km.

H32 C Wednesday

There are 30 days in November; that is 4 weeks and two days. So the 1st December is on a Wednesday.

Pupils may be able to amaze their friends by calculating the day of a week years ahead. There are normally 365 days in each year. $365 \div 7$ gives 52 weeks and one day. So, unless it is a leap year, a birthday one year will be on the next day of the week in the following year. In ten years ahead, a birthday will be ten days ahead plus the number of leap years in these ten years.

H33 C Henry III

Henry 1 (36 yrs), Henry II (35 yrs), Henry III (56 yrs), Henry IV (14 yrs) and Henry V (9 yrs).

Other kings and queens of Britain may have been on the throne for longer than Henry III. Has our present queen been on the throne the longest so far?

H34 C 5

Taking 2 #s away from either side tells us that $15 = 3 \times \#$.
So $\# = 5$. Other children may prefer to use trial and error!

H35 C 4

We need to find a number with the same number of letters in its name as its value. The only number to satisfy this condition is 4.