

# End-of-year maths quiz for CBSE Class 10

CBSE Math Revision · CBSE Class 10 (Class 9 can try most of it) · Student sheet

Name \_\_\_\_\_

Class \_\_\_\_\_

Date \_\_\_\_\_

No calculator. Use  $\pi = 22/7$  where a question says so.

## Starter (5 minutes)

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1. Work out  $6 \times 7$ .
2. Work out  $\sqrt{81}$ .

## Main activity (35 minutes)

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### Round 1: Real numbers

Five questions, getting harder.

- a. Find the HCF of 84 and 126.
- b. Find the LCM of 12 and 18.
- c. Write  $7/40$  as a decimal.
- d.  $\text{HCF} \times \text{LCM}$  of two numbers is 360. One number is 18. Find the other.
- e. Find the largest number that divides 245 and 1029 leaving remainder 5 each time.

## Round 2: Algebra

Five questions, getting harder.

- a. Solve  $5x - 3 = 17$ .
- b. Find the zeroes of  $x^2 - 9x + 20$ .
- c. Find the sum of the zeroes of  $2x^2 - 8x + 5$ .
- d. Solve  $x + y = 10$  and  $x - y = 4$ .
- e. Find the positive value of  $k$  for which  $x^2 + kx + 9 = 0$  has equal roots.

## Round 3: APs and coordinates

Five questions, getting harder.

- a. Find the 20th term of the AP 3, 7, 11, ...
- b. Find the sum of the first 20 natural numbers.
- c. Find the distance between (2, 3) and (8, 11).
- d. Find the midpoint of  $(-2, 5)$  and  $(6, -1)$ .
- e. Which term of the AP 21, 18, 15, ... is  $-81$ ?

## Round 4: Trigonometry and mensuration

Five questions, getting harder.

- a. Find  $\sin 30^\circ + \cos 60^\circ$ .
- b. Find  $\tan^2 45^\circ + 1$ .
- c. Find the area of a circle of radius 14 cm. (Use  $\pi = 22/7$ .)
- d. From a point 30 m from the foot of a tower, the angle of elevation of the top is  $45^\circ$ . Find the height.
- e. Find the volume of a cone of radius 3 cm and height 7 cm. (Use  $\pi = 22/7$ .)

## Round 5: Statistics and probability

Five questions, getting harder.

- a. A die is thrown. Find  $P(\text{a prime number})$ .
- b. A card is drawn from a pack of 52. Find  $P(\text{a king})$ .
- c. Find the mean of 4, 6, 8, 10, 12.
- d. Find the mode of 2, 3, 3, 5, 5, 5, 7.
- e. Two dice are thrown. Find  $P(\text{the total is 8})$ .

## Extension

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- 1. Tie-break, closest wins: how many seconds are there in a week?