IM-000 · Readiness check: the maths you bring to IGCSE

IGCSE Mathematics (0580) · HomiLabs: Maths · Ep 000

Ten questions on the maths this course assumes from earlier school years, from simple Core skills up to one Extended-style question. Count a question as correct only if every part of it is right. The Challenge is not counted.

- **9–10 correct:** you're ready. Watch Part 1 (Ep 1–10) at your own pace.

- **6–8 correct:** follow Part 1 in order, every lecture, and do every Set A.

- **0–5 correct:** that's exactly what Part 1 is for. Go slowly, do every "Pause and try", and redo this sheet after Ep 5.

Set A · Fluency

1. (C) Work out $7 \times 8 - 6$.

2. (C) Write $\frac{3}{5}$ (a) as a decimal (b) as a percentage.

3. (C) Work out $\frac{2}{3} + \frac{1}{4}$.

4. (C) List all the factors of 18.

5. (C) Work out (a) $-4 - 7$ (b) -3×-6.

6. (C) Round 3.476 to 1 decimal place.

Set B · Exam style

7. (Paper 1/2 · no calculator) (C) Work out 15% of 240. [2]

8. (Paper 1/2 · no calculator) (C) Solve $3x + 5 = 20$. [2]

9. (Paper 3/4 · calculator) (C) A circle has radius 5.2 cm. Calculate its area. Give your answer correct to 3 significant figures. [2]

10. (Paper 1/2 · no calculator) (E) Work out $2\frac{1}{2} \times 1\frac{3}{5}$. Show all your working and give your answer in its simplest form. [3]

Challenge

(E) Two whole numbers add up to 20 and multiply to make 96. Find the two numbers. (Not counted in your score.)

Answers

Set A

1. $56 - 6 = 50$ (multiply first)

2. (a) 0.6 (b) 60%

3. $\frac{8}{12} + \frac{3}{12} = \frac{11}{12}$

4. 1, 2, 3, 6, 9, 18

5. (a) −11 (b) 18

6. 3.5

Set B

7. 10% = 24, 5% = 12 M1; 24 + 12 = 36 A1.

8. $3x = 15$ M1; $x = 5$ A1.

9. $\pi \times 5.2^2$ M1 $= 84.949\ldots = 84.9\ \text{cm}^2$ A1.

10. $\frac{5}{2} \times \frac{8}{5}$ M1 (both as improper fractions) $= \frac{40}{10}$ M1 $= 4$ A1.

Challenge

Try factor pairs of 96: 1 × 96, 2 × 48, 3 × 32, 4 × 24, 6 × 16, 8 × 12. Only 8 + 12 = 20. The numbers are 8 and 12.