



Math Foundations I

ENTRY READINESS • 20 ITEMS • 40-50 MINUTES • NO CALCULATOR

This diagnostic checks the number sense a student brings to Math Foundations I. It is not a test to pass or fail. Its only purpose is to show a tutor where a student's understanding is secure and where it needs building, so the first weeks of tutoring are spent on the right things.

BEFORE YOU BEGIN

Work without a calculator. Drawings, tallies, number lines and jottings are all welcome - we want to see thinking, not just answers.

If a question is unfamiliar, leave it blank rather than guessing. A blank tells us more than a guess does.

An adult may read questions aloud, but should not explain the mathematics or hint at a method.

There is no time limit that matters. If a student is tired, stop and finish later.

SECTION A Multiple choice

10 items

Choose one answer. If you are unsure, leave it blank rather than guessing.

- 01** Which number has 4 tens and 7 ones?
- A) 47
 - B) 74
 - C) 407
 - D) 11
- 02** What number is one more than 39?
- A) 40
 - B) 30
 - C) 49
 - D) 310
- 03** Which of these shows $6 + 3$ in a different way?
- A) $3 + 6$
 - B) $6 - 3$
 - C) 6×3
 - D) 63



- 04** Ama has 12 beads. She gives away 5. How many are left?
- A) 7
 - B) 17
 - C) 8
 - D) 5
- 05** Which is the largest number?
- A) 81
 - B) 18
 - C) 78
 - D) 80
- 06** Kwame counts: 2, 4, 6, 8, _____. What comes next?
- A) 10
 - B) 9
 - C) 12
 - D) 16
- 07** Which expression shows 3 groups of 4?
- A) $4 + 4 + 4$
 - B) $3 + 4$
 - C) $3 + 3 + 3 + 3 + 3$
 - D) $4 - 3$
- 08** A shape has 4 straight sides, all the same length, and 4 square corners. What is it?
- A) A square
 - B) A rectangle only
 - C) A triangle
 - D) A circle
- 09** What is $20 - 7$?
- A) 13
 - B) 27
 - C) 14
 - D) 17



10 Half of the 8 apples are red. How many are red?

- A) 4
- B) 2
- C) 8
- D) 16

SECTION B Student solving

6 items

Show your working. We are reading the method, not only the answer.

11 Write the number that is ten more than 46. Then explain in words how you knew.

12 Draw a picture that shows $5 + 7$. Then write the total.

13 There are 15 children. 6 are wearing hats. How many are not wearing hats? Show your working.



- 14 Use the digits 5, 2 and 8 once each to make the largest three-digit number you can. Explain your choice.

- 15 Share 12 sweets equally between 3 children. How many does each child get? Draw how you shared them.

- 16 Write a story problem that could be answered by $9 - 4$.

SECTION C Error analysis

4 items

Each shows work containing a mistake. Find the FIRST incorrect step, say what the student believed, and give the correct answer.

- 17 Yaw worked this out. Find his first mistake, say what he was thinking, and give the correct answer.

$$\begin{array}{r} 34 \\ + 28 \\ \hline 512 \end{array}$$

- 18 Adjoa says: 'The number 50 is smaller than the number 9, because 5 is smaller than 9.' Explain what she has misunderstood.

$$50 < 9 \quad ?$$



- 19 Kofi drew this to show $3 + 3 + 3 + 3$. He wrote 3×3 . What should he have written, and why?

0 0 0 0 0 0 0 0 0 0 0 0
Kofi wrote: 3×3

- 20 Esi says 'half' means 'cut into two pieces'. She cut this ribbon into two pieces and said each was a half. Is she right? Explain.

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A B

What happens next

Bring this completed sheet to your consultation. A tutor reads it alongside a short conversation with the student and any school work you choose to share, then recommends a level. No placement is ever decided by a score on its own, and no student is placed without a tutor's approval.