



TOOL// 3-Part Math Assessment Intermediate

What is the tool?

This tool is a 3-part assessment for math that includes:

- a pre-test to provide data for formative purposes,
- a framework for students to make study notes based on teacher feedback and self-assessment,
- a final summative assessment.

What is it used for?

The tool allows students to identify what they need to learn, and to take responsibility for developing a plan to achieve their learning goals, related to a specific math unit.

The tool is used for assessment for learning and assessment of learning.

How do you use it?

At the beginning of a unit, students are given a formative pre-test that is entirely knowledge-based. The teacher returns this quiz without marks, but with notes to indicate areas of weakness in knowledge.

The students work with a partner to review the teacher's feedback on their pre-test and highlight those areas where they need to improve their understanding.

Following the formative quiz, students are given an outline of what will be covered in the unit.

Throughout the unit, students refer to the outline, and to their pre-test that has areas for improvement highlighted, to create study notes. These study notes are to be handed in on the day of the test.

After the final test is assessed, a package is sent home that includes a letter of explanation to parents, the formative quiz, the student's study notes, and the final assessment which student and parents are to sign and return.

Three Part Math Assessment

Formative Math Quiz:

Name: _____

- place value
- comparing and ordering whole numbers and decimal numbers
- standard and expanded form
- rounding
- estimating
- scientific notation
- powers and square roots

KNOWLEDGE

1. Write the place value of the underlined numbers

- A) 73 905 _____
- B) 2 347 562 _____
- C) 456.08 _____

2. Put the following numbers in order from greatest to least

- A) 7 030 400, 70 000 200, 78 330, 790 300, 709 400, 70 800
- _____

- B) 4.099, 4.9, 41.0, 4.7, 4.07, 4.17, 30
- _____

3. Write the following numbers in standard form.

- A) twenty three million seven hundred two thousand eight hundred five
- _____

- B) five hundred sixty two thousand three and seven hundred twenty two

Thousandths _____

- C) $(2 \times 1\,000\,000) + (9 \times 10\,000) + (1 \times 1000) + (4 \times 100) + (7 \times 0.1)$
- _____

4. Write the following numbers in expanded form.

A) 340 506 _____

B) 203.045 _____

5. Write the following numbers in scientific notation (powers of 10)

A) 3 067 020 _____

B) 19.507 _____

6. Round the following numbers to the place given.

A) 579 032 to the nearest ten thousand _____

B) 9053 to the nearest ten _____

C) 8.045 to the nearest thousandth _____

7. Estimate the sum of the following numbers. Show your work (Grade 8 show all 4 methods)

$$247 + 121 + 376 + 810$$

8. Solve the following

A) 3^2 _____ B) 5^3 _____ C) 2^6 _____

D) $\sqrt{36}$ _____ E) $\sqrt{9}$ _____

Number Sense and Numeration Review

You should know the following for your upcoming math test:

- represent whole numbers and decimal numbers in words, standard form, expanded form, and value in terms of their place value
- arrange whole numbers and decimals in sequential order
- round whole and decimal numbers (100 million to thousandths)
- use estimation strategies (front-end estimation, clustering, compatible numbers, rounding)
- powers of a number and square roots
- how to find all of the factors of a number
- the difference between prime and composite numbers
- how to show a number as a product of its prime factors
- how to find multiples of a number
- how to find the greatest common factor of a set of numbers
- how to find the lowest common multiple of a set of numbers
- how to solve word problems involving any of the above (at least 2 for notes)

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Number Sense Unit Test (Grade 8)

NAME: _____

KNOWLEDGE

1. Help Cameron write the following numbers in words:

12.045 _____

21 048 409 _____

0.976 _____

2. Help Amirreza write the following numbers in standard form:

$3 \times 10\,000\,000 + 4 \times 100\,000 + 2 \times 100 + 1 + 7 \times 0.01$ _____

$2 \times 10 + 5 \times 0.1 + 3 \times 0.01$ _____

3. Delenia has been asked to put the following in expanded form:

42 005 783 _____

6.790 _____

30 406.03 _____

4. Will has been asked to round the following numbers:

42 394.092

5 005 290.527

to the nearest hundred _____

to the nearest ten _____

to the nearest tenth _____

to the nearest hundredth _____

to the nearest hundred _____

to the nearest ten _____

to the nearest tenth _____

to the nearest hundredth _____

5. Help Maddy list the first 4 multiples of the following numbers:

A) 6 _____

B) 8 _____

C) 9 _____

6. Edward is asked to write the factors of the following numbers. Can you help him?

36

9

7. Write the following numbers in scientific notation:

A) 2 304 550 _____

B) 376.092 _____

8. Kayla is asked to write the following numbers as a product of their prime factors. Can you help her? Then determine the GCF and LCM of these two numbers.

48

20

9. Jason is asked to estimate the sum of following numbers using 4 estimation methods.

187, 176, 154, 207

THINKING

1. Jessica, Sarah, and Vincent are following music in Mr. Arnold's class. Jessica is playing the triangle on every second beat. Sarah is playing the cymbals on every fourth beat. Vincent is playing the tambourine on every seventh beat. On what beat will all three students all play their instruments at the same time.

2. Timmy and Anita decide to organize a dodgeball tournament at lunch recess and they ask that any student from grade 6—8 who is interested to come to a meeting. At recess 24 grade 6 students arrive along with 48 grade 7 students and 36 grade 8 students. Timmy and Anita decide to create EQUAL teams but to keep the **grades separate**. What is the greatest number of students on each team making sure that all of the teams are equal? How many teams are then formed in each grade?

