RESOURCE HANDOUT

2019 TRAINING WORKSHOP NO.1

MATHEMATICS

GRADES 8-9

PILO

IMPROVING LEARNER PERFORMANCE

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POST-WORKSHOP ACTIVITY
Grades 8 and 9 Just-in-Time Training Workshop
2019: No.1

SOLUTIONS

TOTAL: 25 marks **TIME: 30 minutes**

NAME: _____

SCHOOL: _____

GRADES I AM TEACHING MATHS TO THIS YEAR: _____

Answer in the spaces provided

QUESTION 1: DEVELOPING FRACTION CONCEPTS *(5 marks)*

1.1 In which grade do learners start (4)

a) Multiplying common fractions and mixed numbers?

Grade 7

b) Dividing fractions?

Grade 8

c) Multiplying common fractions and mixed numbers?

Grade 7

d) Dividing fractions

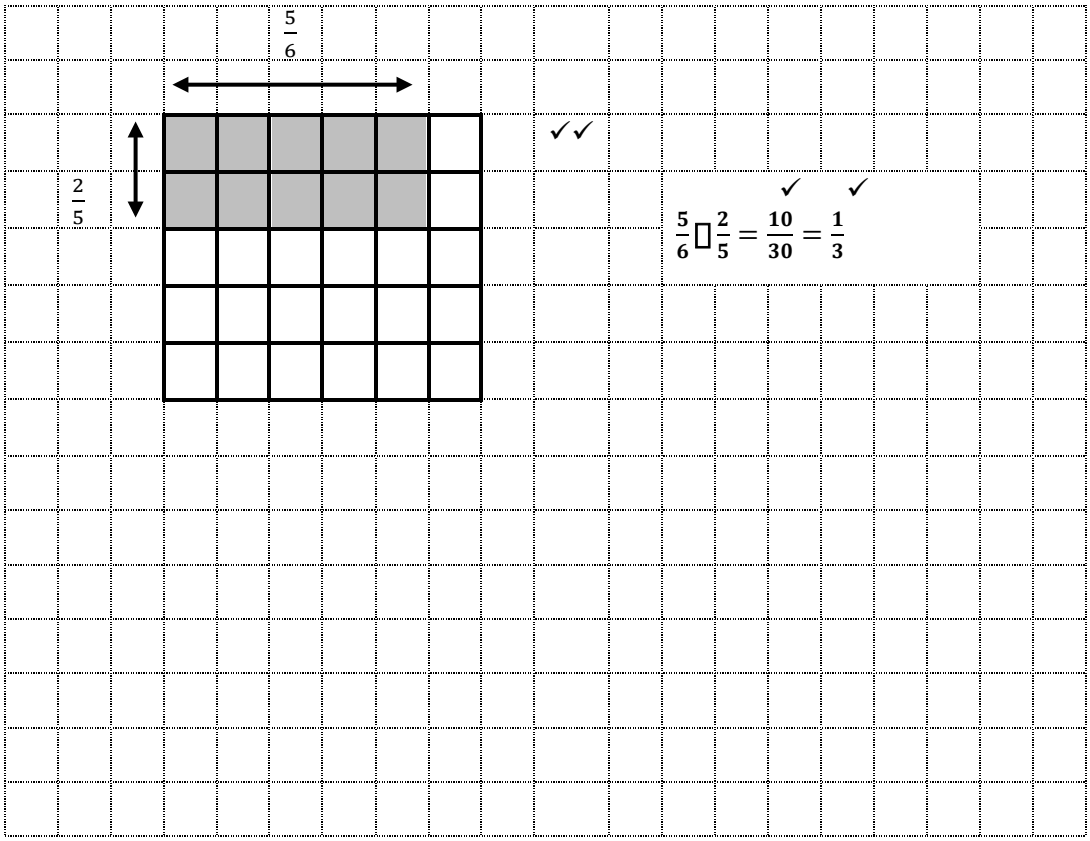
Grade 8

1.3 In which grade do learners start working with percentages?

Grade 6 (1)

QUESTION 2: USING CONCRETE APPARATUS TO TEACH FRACTIONS *(11 marks)*

2.1 On the squared paper below, draw a diagram showing how to find the answer to $\frac{5}{6} \times \frac{2}{5}$. Write your answer in simplest form. (4)



2.2 Use the calculation $1\frac{1}{3} \div 1\frac{5}{27}$ to explain why the division algorithm (i.e. change ÷to × and invert the second number) works. (7)

$$1\frac{1}{3} \div 1\frac{5}{27} = \frac{4}{3} \div \frac{32}{27} \quad \checkmark \ \checkmark$$

$$= \frac{\frac{4}{3}}{\frac{32}{27}} \quad \checkmark$$

$$= \frac{\frac{4}{3} \times \frac{27}{32}}{\frac{32}{27} \times \frac{27}{32}} \quad \checkmark$$

$$= \frac{\frac{108}{96}}{1} \quad \checkmark$$

$$= \frac{9}{8} \quad \checkmark$$

$$= 1\frac{1}{8} \quad \checkmark$$

QUESTION 3: FRACTION EXTENSION ACTIVITIES *(9 marks)*

The difference between two fractions with unlike denominators is $\frac{1}{20}$.
The denominator of the greater fraction is an odd number less than 7. Its numerator is 4.
The denominator of the smaller fraction is an even number that is one less than the denominator of the greater fraction.
Check that your answer is correct. (9)

The difference between the first fraction and the second fraction is $\frac{1}{20}$

So, first fraction – second fraction = $\frac{1}{20}$ ✓

OR, first fraction – $\frac{1}{20}$ ***= second fraction*** ✓

Possibilities for the first fraction: $\frac{4}{1}; \frac{4}{3}; \frac{4}{5}$ ✓

Possibilities for the second fraction:

$\frac{4}{1} - \frac{1}{20} = \frac{80}{20} - \frac{1}{20} = \frac{79}{20}$ ***denominator is even but is NOT one less than the denominator of the greater fraction*** ✓

$\frac{4}{3} - \frac{1}{20} = \frac{80}{60} - \frac{3}{60} = \frac{77}{60}$ ***denominator is even but is NOT one less than the denominator of the greater fraction*** ✓

$\frac{4}{5} - \frac{1}{20} = \frac{16}{20} - \frac{1}{20} = \frac{15}{20} = \frac{3}{4}$ ***denominator is even and is one less than the denominator of the greater fraction*** ✓

✓ ✓

So, the fractions are $\frac{4}{5}$ ***and*** $\frac{3}{4}$

(Check: $\frac{4}{5} - \frac{3}{4} = \frac{16}{20} - \frac{15}{20} = \frac{1}{20}$***)*** ✓