

Term 1 - FIRST Revision Workshop for GRADE 9 on 12 Feb
2026

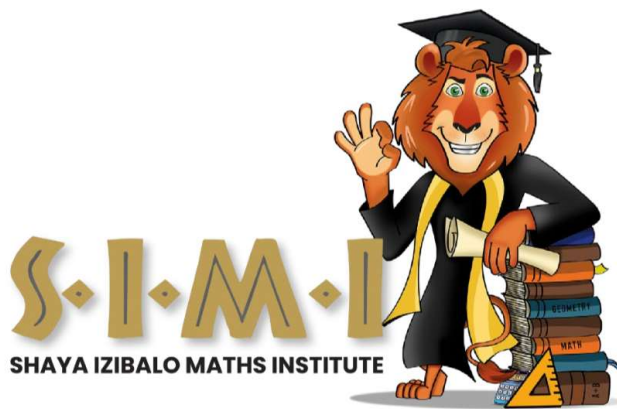
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Term 1 -
FIRST Rev...

Grade 9 Mathematics

Revision Workshop on 12th February 2026



NAME: _____

$$\frac{5}{11} \neq \frac{4}{10} = \frac{8}{20} = \frac{2}{5}$$

$$\begin{array}{l} \$5 + \pounds 2 \\ 5\text{cm} + 2\text{mm} \end{array}$$

1. Simplify:

a. $\frac{3}{4} + \frac{1}{3} - \frac{1}{2}$

$$= \frac{9}{12} + \frac{4}{12} - \frac{6}{12}$$

$$= \frac{7}{12}$$

b. $\frac{3}{4} \times \frac{2}{3}$

$$= \frac{6}{12}$$

$$= \frac{3}{6}$$

$$= \frac{1}{2}$$

c. $\frac{4}{11} \div \frac{12}{22}$

$$= \frac{4}{11} \times \frac{22}{12} = \frac{88}{132}$$

$$= \frac{2}{3}$$

$$= \frac{8}{12}$$

$$= \frac{2}{3}$$

d. $2\frac{1}{3} \times 3\frac{1}{2}$

$$= \frac{7}{3} \times \frac{7}{2}$$

$$= \frac{49}{6}$$

a. $\frac{3}{5} + \frac{1}{3} \times \frac{2}{5}$

$$= \frac{3}{5} + \frac{2}{15}$$

$$= \frac{11}{15}$$

h. $7 - 40\% \text{ of } 50$

$$= 7 - \frac{40}{100} \times 50$$

$$= 7 - \frac{40}{100} \times \frac{50}{1}$$

$$= 7 - 20 = -13$$

i. $35\% + \frac{3}{10} - \frac{2}{5}$

$$= \frac{35}{100} + \frac{30}{100} - \frac{40}{100}$$

$$= \frac{25}{100} = 0,25 = 25\%$$

j. $45\% + \frac{4}{5} - 1\frac{7}{10}$

$$= \frac{45}{100} + \frac{80}{100} - \frac{17}{10}$$

$$= \frac{45}{100} + \frac{80}{100} - \frac{170}{100}$$

$$= \frac{225 - 170}{100}$$

BODMAS

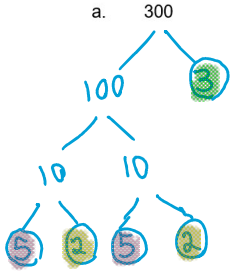
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$$= \frac{1}{4}$$

2. Prime factorise the following numbers:

$$= \frac{55}{100} = \frac{11}{20}$$

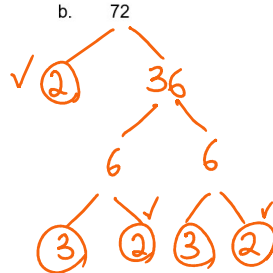
a. 300



$$300 = 2 \times 2 \times 3 \times 5 \times 5$$

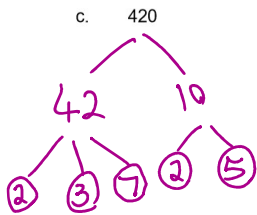
$$= 2^2 \times 3 \times 5^2$$

b. 72



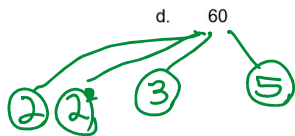
$$72 = 2^3 \times 3^2$$

c. 420



$$420 = 2^2 \times 3 \times 5 \times 7$$

d. 60



$$60 = 2^2 \times 3 \times 5$$

2	60
2	30
3	15
5	5
	1

3. Cross out the incorrect statements in each case:

To find the **lowest common multiple (LCM)** of numbers in prime factored form we:

write down ALL the bases	OR	we write down only the common bases
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and then we

take the lowest occurring power of each	OR	take the highest occurring power of each
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To find the **highest common factor (HCF)** of numbers in prime factored form we:

write down ALL the bases	OR	we write down only the common bases
--	----	--

and then we

take the lowest occurring power of each	OR	take the highest occurring power of each
--	----	--

4. Use your answers to question 3 to find:

a. The HCF (highest common factor) of 300 and 72

$$\underline{HCF = 2^2 \times 3^1 = 12}$$

b. The LCM (lowest common multiple) of 60 and 72

$$\begin{aligned} LCM &= 2^3 \times 3^2 \times 5 \\ &= 360 \end{aligned}$$

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$$\begin{aligned} 300 &= 2^2 \times 3 \times 5^2 \\ 72 &= 2^3 \times 3^2 \end{aligned}$$

$$\begin{aligned} 60 &= 2^2 \times 3^1 \times 5^1 \\ 72 &= 2^3 \times 3^2 \end{aligned}$$

$$\begin{aligned} &60; 120; 180; 240; 300; 360; \dots \\ &72; 144; 216; 288; 360; 432 \end{aligned}$$

c. The HCF (highest common factor) of 420 and 60

$$420 = 2^2 \times 3 \times 5 \times 7$$

$$60 = 2^2 \times 3 \times 5$$

$$\text{HCF} = 2^2 \times 3^1 \times 5^1 = \underline{60}$$

d. The LCM (lowest common multiple) of 60 and 300

$$60 = 2^2 \times 3^1 \times 5^1$$

$$300 = 2^2 \times 3^1 \times 5^2$$

$$\text{LCM} = 2^2 \times 3^1 \times 5^2$$

$$= \underline{300}$$

e. The HCF (highest common factor) of 60, 72, 300 and 420

$$\text{HCF} = 2^2 \times 3^1$$

$$= \underline{12}$$

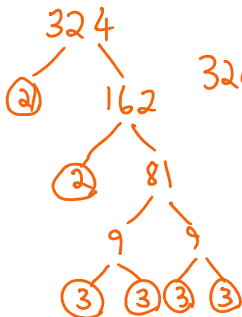
f. The LCM (lowest common multiple) of 60, 72, 300 and 420

$$\text{LCM} = 2^3 \times 3^2 \times 5^2 \times 7$$

12. Find the following by prime factoring:

$$\sqrt{324}$$

$$\sqrt[3]{216}$$



$$324 = 2^2 \times 3^4$$

$$= (2 \times 3^2) \times (2 \times 3^2)$$

$$\sqrt{324} = 2 \times 3^2$$

$$= \underline{18}$$

$$216 = 2^3 \times 3^3$$

$$216 = (2 \times 3) \times (2 \times 3) \times (2 \times 3)$$

$$\sqrt[3]{216} = 2 \times 3$$

$$= \underline{6}$$

13. $36\,000 = 2^5 \times 3^2 \times 5^3$. What is the smallest number we can multiply 36000 by to get:

a. a perfect square?

$$36000 = (2^2 \times 3 \times 5)^2 (2^1 \times 3 \times 5)$$

$$\underline{10}$$

b. a perfect cube?

$$36000 = (2^2 \times 3 \times 5) (2^2 \times 3 \times 5) (2^1 \times 3 \times 5)$$

$$\underline{6}$$

28. Sort these numbers from biggest to smallest by first expressing them all as a common fraction type:

$$\frac{2}{5}; 0,3; \frac{1}{3}; 40\%; \frac{23}{60}; 1\frac{4}{15}; \frac{11}{30}; 2\frac{1}{60}$$

$$\frac{24}{60}; \frac{18}{60}; \frac{20}{60}; \frac{24}{60}; \frac{23}{60}; \frac{76}{60}; \frac{22}{60}; \frac{121}{60}$$

$$\frac{1}{60}; 1\frac{4}{15}; 40\%; \frac{2}{5}; \frac{23}{60}; \frac{11}{30}; \frac{1}{3}; 0,3$$

29. Convert to fractions in simplest form

a. 0,35

$$\frac{35}{100} = \frac{7}{20}$$

b. 0,105

$$\frac{105}{1000} = \frac{21}{200}$$

c. 2,55

$$2\frac{55}{100}$$

$$\frac{255}{100}$$

$$\frac{51}{20}$$

d. 46%

$$= \frac{46}{100}$$

$$= \frac{23}{50}$$

30. Convert to decimals:

a. $\frac{2^3}{5} = \frac{13}{5} \times \frac{2}{2} = \frac{26}{10} = 2.6$

b. $\frac{3}{40} = \frac{3}{2^3 \times 5} \times \frac{2 \times 5^3}{2 \times 5^3} = \frac{750}{10000} = 0.0750$

c. $\frac{3}{125}$

$\frac{3}{5^3} \times \frac{2^3}{2^3} = \frac{24}{1000} = 0.024$

d. $\frac{45}{8}$

$\frac{45}{2^3} \times \frac{5^3}{5^3} = \frac{5625}{1000} = 5.625$

31. I can buy 30 litres of diesel for R690.

a. How many litres can I get for R900?

39.18

b. How much will 50 litres cost?

$R1150$

l	R
30	690
$\frac{30}{690}$	$\div 690$
$\frac{30}{690} \times 900$	$\times 900$
1	900
$\frac{690}{30}$	$\div 30$
$\frac{690}{30} \times 50$	$\times 50$
50	1150



5.625

30. A shopkeeper offers a 21% discount on a bicycle costing R3000. What does it now cost?

%	R
100	3000
$\frac{3000}{100}$	$\div 100$
$\frac{3000}{100} \times 79$	$\times 79$
79	2370

$R2370$



$100\% - 21\% = 79\%$

31. A shopkeeper makes a 10% profit on a rugby ball which cost her R375. How much did she sell it for?

%	R
100	375
1	$\frac{375}{100}$
110	$\frac{375}{100} \times 110$
	<u>= R412,50</u>

$\div 100$ (purple), $\times 110$ (orange)

$\frac{375}{100} \times 110 = R412,50$



32. A book costs R402,50 with 15% VAT included. What did it cost before the VAT was added?

%	R
115	402,50
1	$\frac{402,5}{115}$
100	$\frac{402,5}{115} \times 100$
	<u>= R350</u>

$\div 115$ (green), $\times 100$ (orange)

$\frac{402,5}{115} \times 100 = R350$



\$ 30 costs R50
 What will \$18 cost?
 How many \$ can I buy for R200

\$	R
30	50
1	
18	

()

— 200