



The National
Orthodox School
Shmaisani

Subject: Mathematics

Revision Worksheet

Name:

Grade-Section: 8 CS

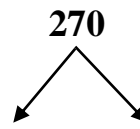
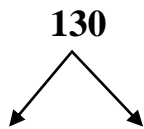
Date:

Teacher: Zain Hattar

Objective: Revise factors, fractions, order of operations, recurring decimals, irrational numbers, estimating square roots and cube roots, index laws, multiplying and dividing a number by a power of 10, standard form, lower and upper bounds, ratio and proportion.

Question 1

Find the HCF of 130 and 270



130 = _____

270 = _____

HCF = _____

Accredited by



Cambridge Assessment
International Education
Cambridge International School

edexcel

CIS
COUNCIL OF
INTERNATIONAL
SCHOOLS



معتمدة من

Question 2

Work out the following without using a calculator. Show all the steps of your working and give your answer as a fraction in its simplest form.

$$\text{a) } 9\frac{5}{7} + 4\frac{1}{2} \times 3 =$$

$$\text{b) } 5\frac{1}{8} - 3\frac{3}{4} =$$

$$\text{c) } (2\frac{1}{3}) \times (1\frac{3}{5}) + 7 =$$

$$\text{d) } -10\frac{1}{4} \div 2\frac{1}{2} =$$

Question 3

Decide whether the fraction $\frac{28}{160}$ will be equivalent to a recurring decimal or a terminating decimal. Explain why using prime factors!

Question 4

Sort the following numbers into one of these three groups.

Put a tick (✓) in the correct box.

Number	Rational	Irrational	Not rational or irrational
- 697			
$-\sqrt{49}$			
1.67			
$\sqrt[3]{-125}$			
80π			
$\sqrt[3]{310}$			
$\sqrt{-77}$			
$\frac{44}{6}$			

Question 5

Estimate the following square root to 1 d.p. Show all the steps of your working

$$\sqrt{85}$$

Estimate the following cube root to 1 d.p. Show all the steps of your working.

$$\sqrt[3]{120}$$

Question 6

Complete using index laws:

$$3^{\square} = \frac{1}{9}$$

$$\left(-\frac{2}{5}\right)^0 = \square$$

$$(14)^0 = \square$$

Question 7

Simplify using index laws. Show all the steps of your working and leave your answer in positive index form.

$$\text{a) } \frac{(7^4 \times 7^5)^2}{7^7} =$$

$$\text{b) } \frac{(3^5 \times 3^2)^2}{(3^7 \div 3^3)} =$$

Question 8

What are the numbers x and y if

$$2^x = 4^y = 16^2 = 256$$

$$\mathbf{x} = \underline{\hspace{2cm}}$$

$$\mathbf{y} = \underline{\hspace{2cm}}$$

Question 9

Work out:

a) $0.94 \times 10^3 =$ _____

b) $1986 \div 10^5 =$ _____

c) $7000 \times 10^{-3} =$ _____

d) $0.0987 \div 10^{-4} =$ _____

e) $4700 \times 10^{-2} + 0.23 \div 10^{-3} =$ _____

Question 10

Write in standard form:

a) $84510 =$ _____

b) $0.00643 =$ _____

c) $78412 =$ _____

d) $0.0458 =$ _____

Question 11

Write an inequality to show the upper and lower bounds for a number, n, where n is:

a) 47.6 rounded correct to the nearest 1 d.p.

$$\boxed{} \leq n < \boxed{}$$

b) 0.03 rounded correct to the nearest 1 s.f.

$$\boxed{} \leq n < \boxed{}$$

Question 12

Divide 0.456 kg in the ratio 6 : 1 : 5

Show your work clearly.

_____ grams _____ grams _____ grams

Question 13

Write each of these as a ratio in its simplest whole-number form.

Show your work.

a) 248 : 124 : 48

b) 25 : 3.5 : 11.5

c) $0.2 : 40\% : \frac{2}{5}$

Question 14

Compare these quantities using ratio.

a) 490 mm and 70 cm

b) 12.6 kg and 360 g

Question 15

I exchange **200 US dollars** (\$) for **1900 South African rand** (R).

At the same rate of exchange, how many dollars would I get for

R 3610?

Question 16

x and y are directly proportional.

x	5	10	15
y	22.5	45	67.5

- a) Find the multiplier from x to y.
- b) Find the equation connecting x and y.
- c) Using the equation, find the value of y when $x = 20$
- d) Using the equation, find the value of x when $y = 135$

Question 17

- a) The time, t seconds, it takes a water heater to boil some water is directly proportional to the mass of water, m kg, in the water heater.

When $m = 250$ kg, $t = 600$ seconds

Find t when $m = 400$ kg

$$t = \underline{\hspace{2cm}} \text{seconds}$$

- b) The time, t seconds, it takes a water heater to boil a constant mass of water is inversely proportional to the power, p watts, of the water heater.

When $p = 1400$ watts, $t = 360$ seconds

Find the value of t when $p = 900$ watts

$$t = \underline{\hspace{2cm}} \text{seconds}$$