



The National
Orthodox School
Shmaisani

Mark

10

Subject: Mathematics

First Semester / Quiz 2

Name: Answers

Grade 8 CS ()

Date:

Question 1

3 marks

Sort the following numbers into one of these three groups:

$\sqrt[3]{8}$	$\sqrt{10}$	$\sqrt{-3}$	-7	4π	$\frac{3}{5}$
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Rational	Irrational	Not rational or irrational
$\sqrt[3]{8}$	$\sqrt{10}$	$\sqrt{-3}$
-7	4π	
$\frac{3}{5}$		



Question 2

5 marks

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

$a) 11^3 \times 11^5 \times 11^2 =$ $= 11^{3+5+2}$ $= 11^{10}$	$b) 7^9 \div 7^1 =$ $= 7^{9-1}$ $= 7^8$
$c) (3^4)^6 =$ $= 3^{4 \times 6}$ $= 3^{24}$	$d) \left(\frac{2}{3}\right)^0 =$ $= 1$
$e) \frac{(5^4 \times 5^3)^2}{5^{20}} = \frac{(5^{4+3})^2}{5^{20}} = \frac{(5^7)^2}{5^{20}} = \frac{5^{14}}{5^{20}}$ $= 5^{-6} = \frac{1}{5^6}$	

Question 3

2 marks

Estimate $\sqrt[3]{200}$ to 1 d.p. Show all the steps of your working!

$$\begin{array}{l} \sqrt[3]{125} \quad \sqrt[3]{200} \quad \sqrt[3]{216} \\ 5 \quad \quad \quad 6 \\ 200 - 125 = 75 \quad | \quad 5 + 0.8 = 5.8 \\ 216 - 125 = 91 \\ \frac{75}{91} \approx 0.8 \\ \sqrt[3]{200} \approx 5.8 \end{array}$$