



FoM10 - Chapter 4 PRACTICE Test - NO CALCULATOR SECTION

/7 Written Response: SHOW ALL WORK!

1) Are the following statements True or False: (1 mark each)

False! $\sqrt{9} = 3 = \text{rational!}$

a) All roots are irrational numbers:

F

b) All natural numbers are integers:

T

1, 2, 3, 4, ... yes, True!

2) Write each radical in simplest form: (1 mark each)

a) $\sqrt{40}$

$= \sqrt{4} \cdot \sqrt{10}$

$= 2\sqrt{10}$

b) $\sqrt[3]{32}$

$= \sqrt[3]{8} \cdot \sqrt[3]{4}$

$= 2\sqrt[3]{4}$

3) Write $7^{\frac{4}{3}}$ as a radical: (1 mark) $\sqrt[3]{7^4}$ *flower power!*

4) Simplify. (answer MUST have positive exponents!) (2 marks)

inside brackets first!

$\left(\frac{18x^3y^{\frac{-11}{4}}}{2x^{-9}y^{\frac{5}{4}}} \right)^{\frac{1}{2}}$

$= \left(\frac{9x^3x^9}{y^{\frac{5}{4}}y^{\frac{1}{4}}} \right)^{\frac{1}{2}}$

$= \left(\frac{9x^{12}}{y^{\frac{16}{4}}} \right)^{\frac{1}{2}}$

$= \left(\frac{9x^{12}}{y^4} \right)^{\frac{1}{2}}$

flower power!

$9^{\frac{1}{2}} = \sqrt{9} = 3$

$= \frac{9^{\frac{1}{2}}(x^{12})^{\frac{1}{2}}}{(y^4)^{\frac{1}{2}}}$

$= \frac{3x^6}{y^2}$