

Your TA: _____

Seat #: -

Math 105 TOPICS IN MATHEMATICS

QUIZ – VII (In-Class)

March 4 (Wed), 2015

Instructor: Yasuyuki Kachi

Line #: 52920.

ID # : _____

Name : _____

[I] (9pts) Below a and b are positive real numbers.

(1) True or false : $\sqrt{a} \sqrt{b} = \sqrt{ab}$.

True.

False.

(Check one.)

(2) True or false : $(\sqrt[5]{a})^4 = \sqrt[5]{a^4}$.

True.

False.

(Check one.)

(3) True or false : $\sqrt[3]{\sqrt[4]{a}} = \sqrt[7]{a}$.

True.

False.

(Check one.)

[II] (8pts) Simplify:

(1) $\sqrt{5} \cdot \sqrt{13} =$ _____ ,

(2) $\sqrt[3]{4} \cdot \sqrt[3]{7} =$ _____ .

(3) $4^{\frac{6}{5}} \cdot \left(\frac{9}{4}\right)^{\frac{6}{5}} =$ _____ ,

(4) $8^{\frac{1}{3}} \cdot 8^{\frac{5}{3}} =$ _____ .

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[III] (3pts) Use

$$1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} = \frac{49}{20}$$

to do

$$1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7} = \underline{\hspace{2cm}} .$$

★ Show work or no credit.

[Work]: