

UNIT 2 Pre-Test (ADVANCED 7TH GRADE MATH MELOTT)

Name: Key Your score _____ / _____

1. Simplify: 3^4

$$3 \cdot 3 \cdot 3 \cdot 3 = \boxed{81}$$

2. Simplify: $64^{\frac{5}{2}}$

$$\sqrt[2]{64^5}$$

$$8^5 = 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 = \boxed{32,768}$$

3. Solve for x: $\frac{32^{2x-2}}{2^{3x+2}} = 2^{2x-1} \times 16^x$

base 2

Same base
(subtract when \div
add when \times)

$$\frac{2^{5(2x-2)}}{2^{3x+2}} = 2^{2x-1} \cdot 2^{4x}$$

$$5(2x-2) - (3x+2) = (2x-1) + 4x$$

$$\cancel{10x} - \cancel{10} - \cancel{3x} + \cancel{2} = \cancel{2x} - 1 + 4x$$

$$7x - 8 = 6x - 1 + 8$$

$$7x = 6x + 7$$

$$\cancel{6x} \quad \cancel{6x}$$

$$\boxed{x = 7}$$


4. 300 dag _____ mg

K h da — d c m


move 4 right

$$300,0000 = \boxed{3,000,000 \text{ mg}}$$

5. 12 dl _____ KL

K h da — d c m

 move 4 left!

$$.0012 = \boxed{.0012 \text{ KL}}$$

6. Identify the property: $(n+m)+7 = n+(m+7)$ Associative property of +
7. Identify the property: $x+0 = x$ Zero property of +
8. Identify the property: $c(11+a) = 11c+ac$ Distributive property of +
9. Identify the property: $1(y) = y$ Identity property of mult.
10. Identify the property: $ab = ba$ Commutative prop. of mult.

11.

Divide. Leave your final answer in scientific notation. No negative exponents in the denominator.

$(3.45 \cdot 10^5) / (6.7 \cdot 10^{-2})$

part I

$$\frac{3.45}{6.7}$$

$$\frac{345}{670}$$

0.51492537 *

part II

$$\frac{10^5}{10^{-2}}$$

$10^5 - -2 = 10^7$ *

670 | 345

0.51492537×10^7
5.1492537×10^6
Final

12. Find the probability. Express your answers as a fraction in lowest terms: You have a deck of cards. You randomly choose a card. What is the probability that you choose a queen or a club?

$P(\text{queen}) = \frac{4}{52}$

$P(\text{club}) = \frac{13}{52}$

Overlap! $\rightarrow P(\text{both}) = \frac{1}{52}$

$\frac{4}{52} + \frac{13}{52} - \frac{1}{52}$

$\frac{17}{52} - \frac{1}{52}$

$\frac{16}{52} = \frac{4}{13}$