

UNIT 2 TEST Review Adv. Math

① $3^4 = 3 \cdot 3 \cdot 3 \cdot 3$
 $= \boxed{81}$

② $5^2 + 8^0 - 3^3$
 $25 + 1 - 27n$
 $\boxed{26 - 27n}$
 or $\boxed{-27n + 26}$

③ $64^{5/2}$
 $\sqrt[2]{64^5}$
 $8^5 = 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8$
 $\boxed{32,768}$

④ $\frac{16^{(2x-2)}}{4^{(3x+2)}} = 2^{(x-1)} \cdot 32^x$
 $\frac{2^{4(2x-2)}}{2^{2(3x+2)}} = 2^{(2x-1)} \cdot 2^{5x}$

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

$8x - 8 - 6x - 4 =$
 $= 7x - 1$

$2x - 12 = 7x - 1$
 $\underline{-2x} \quad \underline{-2x}$

$-12 = 5x - 1$
 $\underline{+1} \quad \underline{+1}$

$\underline{-11} = \underline{5x}$
 $\underline{5} \quad \underline{5}$

$\boxed{\frac{-11}{5} = x}$

⑤ $\frac{-3c^4(2a^3 - 3c^3d^2)}{ad}$

$\boxed{\frac{-6a^3c^4 + 9c^7d^2}{ad}}$

K H D ——— d c m

$$34 \text{ dag} = \textcircled{0.34 \text{ Kg}}$$

(Deka) 2 left!

⑦ $121 \text{ dl} = \textcircled{1.21 \text{ dal}}$
 (deci) (Deka)
2 left

⑧ $3 \text{ dam} = 3 \text{ dekameters} = (\text{move 4 left}) \underline{30000 \text{ mm}}$
 $3 \text{ dm} = 3 \text{ decimeters} = (\text{move 2 R}) \underline{300 \text{ mm}}$
 $4 \text{ cm} = 4 \text{ centimeters} = (\text{move 1 R}) = \underline{40 \text{ mm}}$

$$30000 - 300 - 40 = 29660 \text{ mm}$$

$$\begin{array}{r} 34100 \\ - 370 \\ \hline 29730 \end{array}$$

29660

⑨ $19 = \frac{x}{90} - 25$
+25 +25

$$90 \cdot 44 = \frac{x}{90} \cdot 90$$

$3960 = x$

$$\left(-\frac{3}{4}x + \frac{3}{8} = \frac{27}{32} \right)$$

32 is the least common denominator

$$-24x + 12 = 27$$

$$-24x = 15$$

$$-24x = 15$$

$$-24 \quad -24$$

~~$$x = \frac{15}{-24} = -\frac{5}{8}$$~~

$$x = \frac{15}{-24} = \left(\frac{5}{-8} \right)$$

⑩ $xy = yx$
Commutative of multiplication

⑫ $t + 0 = t$
Zero prop of addition

⑬ $1(d) = d$
Identity prop. of multiplication.

$$(a+b)c = 3c + ac$$

Distributive prop. of addition

(15) $(n+m)+3 = n+(m+3)$
associative prop of +

(16) $a^3 b^2 c$
 $4^3 \cdot 2^2 \cdot 6$
 $64 \cdot 4 \cdot 6$
1536

$\rightarrow 6(16-16)$
 $6 \cdot 0$
0

(17) $c(ab)^2$
 $6 \cdot (4 \cdot 2)^2$
 $6 \cdot (8)^2$
 $6 \cdot 64$
384

(19) $(2 \cdot a^2 - b^4)$
 $(2 \cdot 4 \cdot 3^2 - 2 \cdot 1^4)$

-48.786
or
-48.79
to one
(hundredth)

(18) $c(a^2 - b^4)$
 $6(4^2 - 2^4)$

20) $abc(a^3 + b^3 + c^3)$

$(4.3 \cdot 2.1 \cdot 6.7) \cdot (4.3^3 + 2.1^3 + 6.7^3)$

23,567.015

or

23,567.02

(to the hundredth)

21

$$\frac{3x \cdot (f+5) - x}{x}$$

$$\frac{3xf + 15x - x}{x}$$

$$\frac{3xf + 14x}{x}$$

or

$$\frac{x(3f + 14)}{x}$$

$$3f + 14$$

$$16^{5x-4} = 2^{4x-2}$$

(24) let $x = \# \text{ pts team scored}$

$$2^{4(5x-4)} = 2^{4x-2}$$

$$X = 5 \cdot 4 + 6 \cdot 3 + 4 \cdot 1$$

$$X = 42 \text{ pts}$$

$$\begin{array}{r} 20x - 16 \\ - 4x \end{array} = 4x - 2$$

$$\begin{array}{r} 16x - 16 \\ + 16 \\ \hline \end{array} = -2$$

$$\begin{array}{r} 16x = 14 \\ \hline 16 \quad 16 \end{array}$$

$$X = \frac{14}{16} = \frac{7}{8}$$

(25)

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

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

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

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

$$\frac{17}{52} - \frac{1}{52} = \frac{16}{52} =$$

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

(23)

$$8^{3/2}$$

$$\sqrt[2]{8^3}$$

$$9^3$$

$$9 \cdot 9 \cdot 9 = 729$$

9