RADICALS REVIEW

1. Which of the following variable terms is a perfect square?

the exponent is even

- (A) n^3
- (B) n^7
- (C) n^{25}
- (D) n^{30}

2. Which step would be correct in simplifying:

Simplify $3\sqrt{8}+3\sqrt{2}$ first for addition

- (A) $3\left(\sqrt{4}\sqrt{2}\right)+3\sqrt{2}$
- (B) $6\sqrt{16}$

3. Find what value should replace the ?

$$\frac{\sqrt{15a^7b^4}}{\sqrt{3a^2}}$$

$$\sqrt{5a^{?}b^4}$$

$? = 5$

* Divide 1st
* subtract exponents

4. Simplify:

$\sqrt[4]{531,441} = 27$

CTRL ^

$\sqrt[4]{\square}$

5. Find what value should replace the ?

$$\sqrt{16}\sqrt{2}\sqrt{x^4}\sqrt{x}$$

$$\sqrt{16}\sqrt{x^4}\sqrt{?}$$

$? = 2x$

* Reorganize

6. Which step would be correct in simplifying:

$\sqrt{32}$

(A) $\sqrt{4}\sqrt{8}$

(B) $\sqrt{16}\sqrt{2}$

* Use the biggest perfect square

7. Which of the following numbers is irrational?

(A) 0.43434343....

(B) $\sqrt{20}$

(C) $\frac{4}{7}$

(D) $\sqrt{121}$

8. Find what value should replace the ?

$\sqrt{2}+3\sqrt{2}$

$4\sqrt{?}$

$? = 2$

* don't add the radicands

9. Which step would be correct in simplifying:

$3\sqrt{3}\left(2\sqrt{3}+2\right)$

$3\sqrt{3}(2\sqrt{3})+3\sqrt{3}(2)$ ← ***

(A) $6\sqrt{9}+6\sqrt{3}$

(B) $6\sqrt{9}+2$

10. Find what value should replace the ?

$\sqrt{64}\sqrt{a^{16}}\sqrt{b^4}\sqrt{2}$

$8a^{?}b^{2}\sqrt{2}$

$? = 8$

* Split exponent in half to take the square root

11. Which step would be correct in simplifying:

$\left(2\sqrt{20p}\right)\left(\sqrt{10p}\right)$

* Multiply 1st BEFORE simplifying

(A) $2\sqrt{200p^2}$

(B) $\left(2\sqrt{4}\sqrt{5}\sqrt{p}\right)\left(\sqrt{10}\sqrt{p}\right)$

12. Which step would be correct in simplifying:

$$\frac{\sqrt{12x^5}}{\sqrt{3x^2}}$$

(A) $\frac{\sqrt{4}\sqrt{3}\sqrt{x^4}\sqrt{x}}{\sqrt{3}\sqrt{x^2}}$

(B) $\sqrt{4x^3}$

* Divide 1st BEFORE simplifying

13. Find what value should replace the ?

$$\sqrt{18}\sqrt{m^7}\sqrt{n^4}$$

$$\sqrt{9}\sqrt{2}\sqrt{m^?}\sqrt{m}\sqrt{n^4}$$

☆Split apart the variable term by subtracting one from the exponent

? = 6

14. Which choice is the following expression equivalent to: $\frac{3\sqrt{7}}{\sqrt{9}\sqrt{7}}$

(A) $\sqrt{21}$

(B) $\sqrt{42}$

(C) $\sqrt{63}$

(D) $\sqrt{147}$

15. Find the value of *x* for the following:

$$\sqrt{75}+x\sqrt{3}=7\sqrt{3}$$

$5\sqrt{3}+x\sqrt{3}=7\sqrt{3}$

$\sqrt{75}$

$\sqrt{25}\sqrt{3}$

$5\sqrt{3}$

(A) 1

(B) 2

(C) 5

(D) 7