

GRE Arithmetic Practice Test 10

Question 1

Simplify $(\frac{16}{81})^{1/4}$.

Possible Answers:

$$\frac{8}{81}$$

$$\frac{4}{9}$$

$$\frac{2}{81}$$

$$\frac{2}{3}$$

$$\frac{4}{81}$$



Correct answer:

$$\frac{2}{3}$$

Question 2

Simplify the following radical $\sqrt{20x^2}$.

Possible Answers:

$$2\sqrt{5x^2}$$

$$4\sqrt{5x}$$

$$2x\sqrt{5}$$

$$2x\sqrt{10}$$



Correct answer:

$$2x\sqrt{5}$$

Explanation:

You can rewrite the equation as $\sqrt{20x^2} = (x)\sqrt{5} \cdot \sqrt{4}$.

This simplifies to $2x\sqrt{5}$.

Question 3

Which of the following is equal to $\sqrt{75}$?

Possible Answers:

$7.5\sqrt{10}$

9

$3\sqrt{5}$

$5\sqrt{3}$



Correct answer:

$5\sqrt{3}$

Explanation:

$\sqrt{75}$ can be broken down to $\sqrt{25} * \sqrt{3}$. Which simplifies to $5\sqrt{3}$.

Question 4

Simplify $\sqrt{a^3 b^4 c^5}$.

Possible Answers:

$$a^2 b c^2 \sqrt{ac}$$

$$a^2 b^2 c^2 \sqrt{bc}$$

$$a^2 b^2 c \sqrt{ab}$$

$$ab^2 c^2 \sqrt{ac}$$

$$a^2 bc \sqrt{bc}$$



Correct answer:

$$ab^2 c^2 \sqrt{ac}$$

Question 5

What is $\sqrt{50}$?

Possible Answers:

$5\sqrt{2}$

$10\sqrt{2}$

$2\sqrt{5}$

5

10



Correct answer:

$5\sqrt{2}$

Question 6

Which of the following is equivalent to $\frac{x + \sqrt{3}}{3x + \sqrt{2}}$?

Possible Answers:

$$\frac{3x^2 - x\sqrt{2} + 3x\sqrt{3} - \sqrt{6}}{9x^2 - 2}$$

$$\frac{4x + \sqrt{5}}{3x + 2}$$

$$\frac{3x^2 + 3x\sqrt{2} + x\sqrt{3} + \sqrt{6}}{9x^2 - 2}$$

$$\frac{3x^2 - \sqrt{6}}{9x^2 + 2}$$

$$\frac{3x^2 + \sqrt{6}}{3x - 2}$$



Correct answer:

$$\frac{3x^2 - x\sqrt{2} + 3x\sqrt{3} - \sqrt{6}}{9x^2 - 2}$$

Question 7

Which of the following is the most simplified form of:

$$\sqrt{468}$$

Possible Answers:

$$4\sqrt{29}$$

$$2\sqrt{117}$$

$$17\sqrt{2}$$

$$\sqrt{468}$$

$$6\sqrt{13}$$



Correct answer:

$$6\sqrt{13}$$

Question 8

What is $\sqrt{432}$ equal to?

Possible Answers:

$6\sqrt{4}$

$6\sqrt{3}$

$12\sqrt{12}$

$144\sqrt{3}$

$12\sqrt{3}$



Correct answer:

$12\sqrt{3}$

Question 9

Which of the following is equivalent to:

$$\sqrt{210} + \sqrt{55}?$$

Possible Answers:

$$5\sqrt{462}$$

$$\sqrt{265}$$

$$5\sqrt{7} + \sqrt{11}$$

$$\sqrt{5}(\sqrt{42} + \sqrt{11})$$

$$7\sqrt{30} + 5\sqrt{11}$$



Correct answer:

$$\sqrt{5}(\sqrt{42} + \sqrt{11})$$

Question 10

Simplify:

$$\sqrt{15} - \sqrt{20} + \sqrt{35}$$

Possible Answers:

$$\sqrt{2}(\sqrt{5} + 2\sqrt{7})$$

$$2\sqrt{15} + \sqrt{2}$$

$$\sqrt{5}(\sqrt{3} + \sqrt{7} - 2)$$

$$\sqrt{7} - 3\sqrt{5}$$

$$\sqrt{5}(\sqrt{10} - 2)$$



Correct answer:

$$\sqrt{5}(\sqrt{3} + \sqrt{7} - 2)$$