GRE Arithmetic Practice Test 12

Question 1

Which of the following is equal to $\sqrt{81}/\sqrt{6}$

Possible Answers:

$3\sqrt{6}/2$

$3\sqrt{3}$

$2\sqrt{3}$

$\sqrt{3}/2$

$3\sqrt{6}$

Correct answer:

$3\sqrt{6}/2$

Question 2

Simplify:

$$\frac{\sqrt{343x^5}}{\sqrt{49x^3}}$$

Possible Answers:

$\frac{x}{7}$

$7\sqrt{x}$

$\frac{7}{x}$

$x\sqrt{7}$

$7x$

Correct answer:

$x\sqrt{7}$

Question 3

Solve for x:

$$\frac{1}{\sqrt{x}} = 4$$

Possible Answers:

- 16
- $\frac{1}{4}$
- $\pm\frac{1}{16}$
- 4
- $\frac{1}{16}$

Correct answer:

$$\frac{1}{16}$$

Question 4

Rationalize the denominator:

$$\frac{2}{\sqrt{5}}$$

Possible Answers:

$$\frac{\sqrt{5}}{2}$$

$$\frac{5}{2}$$

$$\frac{2\sqrt{5}}{5}$$

$$\frac{5}{2\sqrt{5}}$$

$$\frac{2}{5}$$

Correct answer:

$$\frac{2\sqrt{5}}{5}$$

Question 5

Simplify:

$$\frac{\sqrt{250}}{\sqrt{10}}$$

Possible Answers:

25

$\frac{\sqrt{10}}{2}$

$\sqrt{10}$

5

$\frac{\sqrt{10}}{5}$

Correct answer:

5

Question 6

Simplify:

$$\frac{\sqrt{21}}{\sqrt{20}}$$

Possible Answers:

$\frac{21}{20}$

$\frac{\sqrt{21}}{10}$

$\frac{\sqrt{105}}{10}$

$\frac{\sqrt{105}}{50}$

$\frac{105}{10}$

Correct answer:

$$\frac{\sqrt{105}}{10}$$

Question 7

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

Possible Answers:

$\frac{1}{3}$

$\sqrt{3}$

$\frac{1}{\sqrt{3}}$

3

$\frac{3}{\sqrt{3}}$

Correct answer:

$\frac{1}{\sqrt{3}}$

Question 8

Rationalize the denominator and simplify:

$$\frac{\sqrt{8}+\sqrt{12}}{\sqrt{6}}$$

Possible Answers:

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

$$\frac{5}{3}$$

$$\frac{\sqrt{15}}{3}$$

$$\frac{\sqrt{48}+\sqrt{72}}{6}$$

$$\frac{\sqrt{30}}{3}$$

Correct answer:

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

Question 9

Simplify:

$$\sqrt{\frac{5}{6}} - \sqrt{\frac{7}{8}}$$

Possible Answers:

$$\sqrt{\frac{35}{48}} \cdot -\frac{1}{24}$$

$$\frac{\sqrt{105}}{12}$$

$$\frac{4\sqrt{30}}{24} - \frac{3\sqrt{56}}{24}$$

$$\frac{2\sqrt{14} - 3\sqrt{30}}{12}$$

$$\frac{2\sqrt{30} - 3\sqrt{14}}{12}$$

Correct answer:

$$\frac{2\sqrt{30} - 3\sqrt{14}}{12}$$

Question 10

Simplify:

$$\frac{1+\sqrt{2}}{1-\sqrt{2}}$$

Possible Answers:

$-3-2\sqrt{2}$

$-5\sqrt{2}$

$3+2\sqrt{2}$

$-3+2\sqrt{2}$

$-\sqrt{2}$

Correct answer:

$-3-2\sqrt{2}$