

GRE Arithmetic Practice Test 8

1.

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

Possible Answers:

$$\sqrt{3}/2$$

$$3\sqrt{3}$$

$$2\sqrt{3}$$

$$3\sqrt{6}$$

$$3\sqrt{6}/2$$

2.

Simplify:

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

Possible Answers:

$$\frac{x}{7}$$

$$7\sqrt{x}$$

$$7x$$

$$x\sqrt{7}$$

$$\frac{7}{x}$$

3.

Solve for x :

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

Possible Answers:

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

$$4$$

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

$$\frac{1}{4}$$

$$16$$

4.

Rationalize the denominator:

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

Possible Answers:

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

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

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

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

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

5.

Simplify:

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

Possible Answers:

25

$\sqrt{10}$

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

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

5

6.

Simplify:

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

Possible Answers:

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

$\frac{105}{10}$

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

$\frac{21}{20}$

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

7.

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

Possible Answers:

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

$$3$$

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

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

$$\sqrt{3}$$

8.

Rationalize the denominator and simplify:

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

Possible Answers:

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

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

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

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

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

9.

Simplify:

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

Possible Answers:

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

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

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

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

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

10.

Simplify:

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

Possible Answers:

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

$$-\sqrt{2}$$

$$-3 - 2\sqrt{2}$$

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

$$-5\sqrt{2}$$

11.

Solve for x :

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

Possible Answers:

4

16

8

$\frac{1}{16}$

1

12.

Simplify:

$$\frac{\sin \theta}{\cot \theta} * \frac{\sqrt{\tan \theta}}{\sqrt{\cos \theta}}$$

Possible Answers:

$\tan \theta * \sqrt{\sin \theta}$

$\tan^2 \theta * \sqrt{\cos \theta}$

$\sqrt{\sin \theta}$

$\tan^2 \theta * \sqrt{\sin \theta}$

$\sqrt{\cos \theta}$

13.

Simplify.

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

Possible Answers:

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

$$5 + 2\sqrt{5}$$

$$\sqrt{5}$$

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

$$\frac{5 - 2\sqrt{5}}{3}$$

14.

Solve for x :

$$\sqrt{\frac{x}{5}} = \sqrt{30}$$

Possible Answers:

$$60$$

$$5\sqrt{2}$$

$$30$$

$$150$$

$$\sqrt{150}$$

15.

The length of a square courtyard is $\sqrt{34}$ feet.

What is the area of the courtyard?

Possible Answers:

$$\sqrt{1156}ft^2$$

$$34ft^2$$

$$56ft^2$$

$$1156ft^2$$