Square Roots. Form A

1. The expression $\frac{\sqrt{80}}{4}$ is equivalent to?

(A) $\sqrt{5}$
(B) $5\sqrt{2}$
(C) $2\sqrt{8}$
(D)) $4\sqrt{5}$
(E)$\sqrt{20}$

2. The expression $\frac{\sqrt{4,500}}{30}$ is equivalent to?

(A) $\sqrt{5}$
(B) $15\sqrt{30}$
(C) $3\sqrt{15}$
(D) $10\sqrt{5}$
(E)$\sqrt{150}$

3. The expression $2\sqrt{7} - 5\sqrt{7} + 5\sqrt{5}$ is equivalent to?

(A) $2\sqrt{19}$
(B) $-2\sqrt{14} + 5\sqrt{5}$
(C) $5\sqrt{5} - 3\sqrt{7}$
(D) $2\sqrt{35}$
(E) $\sqrt{12}$

4. The expression $3\sqrt{8} - 5\sqrt{2}$ is equivalent to?

(A) $-2\sqrt{6}$
(B) $2\sqrt{2}$
(C) $\sqrt{2}$
(D) $-2\sqrt{2}$
(E) 2

5. The expression $\sqrt{48} - 2\sqrt{27} + 3\sqrt{3}$ is equivalent to?

(A) $10\sqrt{3}$
(B) $3\sqrt{2}$
(C) $\sqrt{24}$
(D) $\sqrt{3}$
(E) $-\sqrt{3}$

6. The expression $\sqrt{75x^4}$ is equivalent to?

(A) $5\sqrt{3}x$
(B) $\sqrt{5}x^2$
(C) $5\sqrt{3}x^2$
(D) $5\sqrt{3x^2}$
(E) $25x^2$

7. The expression $\sqrt{8x^7y^5}$ is equivalent to?

(A) $4xy\sqrt{x^6y^4}$
(B) $x^3y^2\sqrt{4xy}$
(C) $4\sqrt{35xy}$
(D) $2x^3y^2\sqrt{2xy}$
(E) $\sqrt{8(xy)^{35}}$

8. Which of the equations below is NOT true?

(A) $\sqrt{\frac{3}{13}} = \frac{\sqrt{3}}{\sqrt{13}}$
(B) $\sqrt{75} = 5\sqrt{3}$
(C) $3\sqrt{7} + 2\sqrt{7} = 5\sqrt{7}$
(D) $\sqrt{7} + \sqrt{3} = \sqrt{10}$
(E) $\left(\sqrt{2}\right)\left(\sqrt{3}\right) = \sqrt{6}$

9. The expression $(\sqrt{6})(\sqrt{15})(\sqrt{10})$ is equal to?

(A) 25
(B) 31
(C) 29
(D) 41
(E) 30

10. The product $\sqrt{9x}\sqrt{5x^3}$ is equivalent to?

(A) $15x$
(B) $3x\sqrt{5}$
(C) $x^2\sqrt{15}$
(D) $3x^2\sqrt{5}$
(E) 45

11. Reduce $\frac{\sqrt{x^5y^3}}{\sqrt{x^3y}}$ to its simplest form

(A) xy
(B) $\sqrt{xy}$
(C) $(xy)^2$
(D) $\frac{x^2}{y^2}$
(E) $\sqrt{x^2y}$

12. The conjugate for the expression $5+\sqrt{3}$ is?

(A) $\sqrt{3}+\sqrt{5}$
(B) $\sqrt{8}$
(C) $\frac{\sqrt{5}}{\sqrt{3}}$
(D) $5-\sqrt{3}$
(E) 8

13. The product of $(\sqrt{3}+\sqrt{5})\ (\sqrt{3}-\sqrt{5})$ is equal to?

(A) -2
(B) 2
(C) 3
(D) 5
(E) $\sqrt{15}$

14. The expression $\frac{5}{\sqrt{3}}$ is equal to?

(A) $\frac{\sqrt{15}}{3}$
(B) $\frac{5}{3}$
(C) $\frac{\sqrt{3}}{5}$
(D) 15
(E) $\frac{5\sqrt{3}}{3}$

15. After rationalizing the denominator, the expression $\frac{6\sqrt{2}}{\sqrt{3}}$ is equal to?

(A) $\frac{\sqrt{12}}{3}$
(B) $\frac{6\sqrt{2}}{3}$
(C) $\frac{6\sqrt{6}}{3}$
(D) $\frac{\sqrt{12}}{\sqrt{3}}$
(E) $\frac{2\sqrt{2}}{3}$

16. For $x > 0$, after rationalizing the denominator, the expression $\frac{1}{\sqrt{x}}$ is equivalent to?

(A) $\sqrt{1-x}$
(B) $1-\sqrt{x}$
(C) $\sqrt{x}$

(D) $\frac{\sqrt{x}}{x}$

(E) $\frac{\sqrt{x}}{2}$

17. If $\sqrt{4x} - 2 = 6$, then $x = ?$

(A) 8

(B) 4

(C) 16

(D) 32

(E) 2

18. If $2\sqrt{x} + 3\sqrt{x} = 25$, then $x = ?$

(A) 15

(B) 20

(C) 5

(D) 25

(E) 10

19. If $\frac{\sqrt{2x}}{\sqrt{5}} + 5 = 15$, then $x = ?$

(A) 500

(B) 250

(C) 25

(D) 50

(E) 100

20. For $x > 0$, if $\sqrt{\frac{40}{x}} + 1 = 3$, then $x = ?$

(A) 2

(B) 40

(C) 20

(D) 5

(E) 10

Answers

1. A
2. A
3. C
4. C
5. D
6. C
7. D
8. D
9. E
10. D
11. A
12. D
13. A
14. E
15. C
16. D
17. C
18. D
19. B
20. E