

Solving other types of Equations

1) The **product** of all the solutions of $\sqrt{2x+1} + 1 = x$, is equal to

- A) 4
- B) 0
- C) 2
- D) -2
- E) 1

2) The **sum** of all the solutions of the equation $16(x+5)^{-\frac{2}{3}} - (x+5)^{\frac{4}{3}} = 0$, is

- A) -10
- B) 10
- C) 12
- D) 8
- E) -14

3) The **sum** of all the solution(s) of the equation

$$\frac{4x}{x-5} - \frac{1}{x+1} = \frac{3x^2+3}{x^2-4x-5}$$

- A) -2
- B) -3
- C) -1
- D) 2
- E) 3

4) The solution set of the equation $\sqrt{3x+1} = 2 + \sqrt{x+1}$, has

- A) one positive integer only.
- B) two positive integers.
- C) one positive and one negative integers.
- D) two negative integers.
- E) one negative integer only.

5) The **sum** of distinct solutions of the equation $\sqrt[4]{x^3+6x^2} = x$, is

- A) 3
- B) 2
- C) -2
- D) 1
- E) -3

6) The **sum** of the solution set of the equation $(x+1)^{\frac{2}{3}} = 4$ is

- A) -2
- B) -9
- C) 7
- D) -7
- E) 3

7) The solution set of the equation $\frac{3}{x+4} + \frac{4}{x+3} = \frac{4}{x^2+7x+12}$ contains

- (a) no real solution
- (b) one positive real number only
- (c) two negative real numbers
- (d) one negative real number only
- (e) two positive real numbers

8) The equation $\sqrt{2\sqrt{7x+2}} = \sqrt{3x+2}$ has

- (a) two rational solutions
- (b) one rational solution only
- (c) no solution
- (d) two irrational solutions
- (e) one irrational solution only

9) The sum of the real solutions of the equation $\frac{1}{x^6} + \frac{9}{x^3} + 8 = 0$, is

- (a) $-3/2$
- (b) $-9/8$
- (c) -9
- (d) $-1/2$
- (e) $1/2$

10) The sum of all the solutions of the equation $(y+3)^{2/3} - 2(y+3)^{1/3} - 3 = 0$ is:

- (a) 20
- (b) -18
- (c) -27
- (d) 28
- (e) 30

11) The sum of all solution of the equation $\sqrt{x} - \sqrt[4]{x} - 2 = 0$ is

- (a) 16
- (b) -16
- (c) -1
- (d) 17
- (e) 1

12) The solution set of the equation $(x+2)^3 - 64 = 0$ consists of:

- (a) one real solution and two nonreal complex solutions
- (b) one real solution and one nonreal complex solution
- (c) two real solutions and one nonreal complex solution
- (d) three nonreal complex solutions
- (e) one real solution

13) The solution set of the equation $\frac{3}{x+4} + \frac{4}{x+3} = \frac{4}{x^2 + 7x + 12}$ contains

- (f) no real solution
- (g) one positive real number only
- (h) two negative real numbers
- (i) one negative real number only
- (j) two positive real number

14) The equation $\sqrt{2\sqrt{7x+2}} = \sqrt{3x+2}$ has

- (f) two rational solutions
- (g) one rational solution only
- (h) no solution
- (i) two irrational solutions
- (j) one irrational solution only

15) The sum of the real solutions of the equation $\frac{1}{x^6} + \frac{9}{x^3} + 8 = 0$, is

- (f) $-3/2$
- (g) $-9/8$
- (h) -9
- (i) $-1/2$
- (j) $1/2$

16) The sum of all the solutions of the equation $(y+3)^{2/3} - 2(y+3)^{1/3} - 3 = 0$ is:

- (f) 20
- (g) -18
- (h) -27
- (i) 28
- (j) 30

17) The sum of all solution of the equation $\sqrt{x} - \sqrt[4]{x} - 2 = 0$ is

- (f) 16
- (g) -16
- (h) -1
- (i) 17
- (j) 1

18) The solution set of the equation $(x+2)^3 - 64 = 0$ consists of:

- (f) one real solution and two nonreal complex solutions
- (g) one real solution and one nonreal complex solution
- (h) two real solutions and one nonreal complex solution
- (i) three nonreal complex solutions
- (j) one real solution

19) The sum of all solutions of the equation

$$x^{2/3} - 4x^{1/3} - 32 = 0$$

(a) 448

20) The **sum** of all solutions of the equation

$$(x + 1)^{2/3} = (x + 1)^{1/3} + 6$$

~~(a)~~ 17

21) If $x = k$ is the solution of the equation $2x = 1 - \sqrt{2 - x}$, then $8k + 1 =$

~~(a)~~ -1

22) The sum of the real solutions of the equation

$$\frac{1}{x^6} + \frac{9}{x^3} + 8 = 0$$

~~(a)~~ $-\frac{3}{2}$

23) The number of real solutions of the equation $8x^6 + 1 = -9x^3$ is

A) 1

B) 2

C) 4

D) 3

E) 6

24) The **sum** of all real solutions to the equation $\sqrt{2x+3} - \sqrt{x+1} - 1 = 0$ is

A) 0

B) -3

C) 3

D) -1

E) 2

25) The solution set of the equation $(x+3)^4 - 5(x+3)^2 + 4 = 0$ consists of

A) four negative integers

B) one positive and three negative integers

C) two positive and two negative integers

26) The solution set of the equation $\frac{x+2}{2-x} + \frac{1}{x} = \frac{-2}{x^2-2x}$ contains

A) one negative integer.

B) one positive integer.

C) two integers.

27) The sum of the solutions of the equation $x - \sqrt{x} - 12 = 0$ is:

A) 16

28) The sum of the solutions which satisfy the equation $\sqrt{x+1} - \sqrt{2x-5} = 1$ is

A) 3

29) The **sum** of all the solution(s) of the equation $x = \sqrt{x+5} + 7$ is

A) 11

B) -7

C) 4

D) 15

E) 7

30) The **sum** of all the solution(s) of the equation $\frac{x-3}{x+6} + \frac{x-2}{x-3} = \frac{x^2}{x^2+3x-18}$ is

A) -1

B) 3

C) 1

D) -4

E) 2