1.6: 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) 12

   C) 8

   D) -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 $\frac{3}{x+4}+\frac{4}{x+3}=\frac{4}{x^2+7x+1}$ 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 sum of all solutions of the equation

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

A) 448

14.The sum of all solutions of the equation

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

A) 17

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

A) -1

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

A) 1

B) 2

C) 4

D) 3

E) 6

17. 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

18. 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.

19.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.

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

A) 16

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

A) 3

22. 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

23. 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

24. The sum of all the solution(s) of the equation $\frac{x^2+2x}{x^2-36}+\frac{2}{x+6}=\frac{1}{x-6}$ is:

A) 3

25.The sum of all the solutions of the equation $9(2x+1)^{-\frac{1}{3}} - (2x+1)^{\frac{2}{3}} = 0$ is

A) -5

B) 5

C) $\frac{7}{2}$

D) -4

E) 4

26. The sum of distinct solutions of the equation $\sqrt[4]{x^3+2x^2} = x$ is

A) 3

B) - 1

C) 2

D) 0

E) 1

27.The sum of all the solution(s) of the equation

$(x-5)(x^3-3x^2-3x+12)=(x-5)x$ is

A) 8

28.The sum of all the solution(s) of the equation $\left(\frac{x-1}{x}\right)^2-\left(\frac{x-1}{x}\right)=2$ is

A) $-\frac{1}{2}$

29.The solution set of the equation $\sqrt{3x+1}-\sqrt{x+1}=2$ consists of

A) only one positive integer

B) only one negative integer

C) two positive integers

D) two negative integers

E) two nonnegative integers.

30.The solution set of the equation $\frac{x-1}{x^2-1}=\frac{1}{2}$ consists of

A) no real numbers

B) only one positive integer

C) only one negative integer

D) one positive and one negative integers

E) two negative integers.