QUADRATIC EQUATIONS (Solutions)

1. Answer is option E
Explanation:
$2x^2+x-21 = 0$
$2x^2+7x-6x-21 = 0$
$x = \frac{7}{2} = -3.5, +\frac{6}{2} = +3$

$3y^2+4y+32 = 0$
$3y^2+12y-8y+32 = 0$
$y = -\frac{12}{3} = -4, +\frac{8}{3} = +2.66$
Hence, no relation.

2. Answer is option C
Explanation:
$x^2-6x+135 = 0$
$x^2-15x+9x+135 = 0$
$x = +15, -9$

$y^2-30y+225 = 0$
$y^2-15y-15y+225 = 0$
$y = +15, +15$
Hence, $x \leq y$

3. Answer is option D
Explanation:
$\frac{25}{\sqrt{x}} - 4\sqrt{x} = \sqrt{x}$
$25 - 4x = x$
$25 = 5x$
$X = 5$

$2y+\frac{y2+50}{y} = 5y$
$2y^2 + y^2+50 = 5y^2$
$2y^2 = 50$
$y = \sqrt{25}$
$y = \pm 5$
Hence, $x \geq y$

4. Answer is option A
Explanation:
$x^2 - 43x+ 462 = 0$
$x^2 - 22x-21x+ 462 = 0$
$x = +22 , +21$

$y^2-37y+342 = 0$
$y^2-19y-18y+342 = 0$
$y = +19, +18$
Hence, $x>y$

5. Answer is option E
Explanation:
$\sqrt{x} + \frac{28}{\sqrt{x}} = 5\sqrt{x}$
$\sqrt{x} + \frac{28}{\sqrt{x}} = 5\sqrt{x}$
$X+ 28 = 5x$
$28 = 4x$
$X = 7$

$\sqrt{y} + \frac{y+35}{\sqrt{y}} = 7\sqrt{y}$
$y + y + 35 = 7y$
$35 = 5y$
$y = 7$
$x = y$

6. Answer is option A
Explanation:
$\frac{12}{\sqrt{x}} + \frac{8}{\sqrt{x}} = 8\sqrt{x}$
$\frac{20}{\sqrt{x}} = 8\sqrt{x}$
$8x = 20$
$x = \frac{20}{8}$
$x = \frac{5}{2}$

$\frac{\sqrt{y}}{4} + \frac{5\sqrt{y}}{12} = \frac{1}{\sqrt{y}}$
$\frac{8\sqrt{y}}{12} = \frac{1}{\sqrt{y}}$
$y = \frac{3}{2}$
Hence, $x > y$

7. Answer is option E
Explanation:
$\frac{8}{\sqrt{x}} + \frac{6}{\sqrt{x}} = \sqrt{x}$
X=14

$y^3 - \frac{(14)^{\frac{7}{2}}}{\sqrt{y}} = 0$
$y^{\frac{7}{2}} - (14)^{\frac{7}{2}} = 0$
$y^{\frac{7}{2}} = (14)^{\frac{7}{2}}$
y = 14
x = y

8. Answer is option B
Explanation:
I. $\frac{25}{x^2} - \frac{12}{x} + \frac{9}{x^2} = \frac{4}{x^2}$
$\frac{25+9-4}{x^2} = \frac{12}{x}$
x = 2.5

II. $9.84 - 2.64 = 0.95 + y^2$
$y^2 = 6.25$
$y = \pm 2.5$
$x \geq y$

9. Answer is option A
Explanation:
I. $\frac{3^4+5^3}{2} = x^3$
$2x^3 = 306$
$x^3 = 103$
II. $12y^3 = -(15\times20) + 17y^3$
$5y^3 = 300$
$y^3 = 60$
x>y

10. Answer is option C
Explanation:
I. (x–8) (2y+9) = 25
II. (2x–16) (y–4) = 8

I. 2xy+9x–16y–72 = 25
II. 2xy–8x–16y+64 = 8
X= 9
Y = 8
Hence, X>Y

11. Answer is option E
Explanation:
$4x^2 - 25x + 25 = 0$
$4x^2 - 20x - 5x + 25 = 0$
$x = \frac{20}{4} = 5, x = \frac{5}{4} = 1.25$

$2y^2 - 13y + 21 = 0$
$2y^2 - 7y - 6y + 21 = 0$
$y = \frac{7}{2} = 3.5, y = \frac{6}{2} = 3$
Hence, there is no relation.

12. Answer is option C
Explanation:
$2x^2 - 4x - 48 = 0$
$2(x^2 - 2x - 24) = 0$
$x^2 - 2x - 24 = 0$
$x^2 - 6x + 4x - 24 = 0$
x = +6, –4

$y^2 - 13y + 42 = 0$
$y^2 - 7y - 6y + 42 = 0$
y = +7, +6
Hence, x≤y.

13. Answer is option E
Explanation:
$3\sqrt{x}-\frac{18}{\sqrt{x}}=\sqrt{x}$
3x–18 = x
2x = 18
x = 9

$2\sqrt{y}+\frac{y-36}{\sqrt{y}}=-\sqrt{y}$
2y+y–36 = –y
4y = 36
y = 9
Hence, x=y

14. Answer is option D
Explanation:
$\sqrt{y}+\frac{15y}{\sqrt{y}}=4y^{\frac{5}{2}}$
y+15y = 4y3
y(1+15) = 4y3
16 = 4y2
4 = y2
y = ±2

$4x^4=\frac{128}{x}$
$4x^5 = 128$
$x^5 = 32$
$x^5 = 2^5$
x = 2
Hence, x≥y

15. Answer is option A
Explanation:
(x–8) (2y+9) = 25
2xy+9x–16y–72 = 25
2xy+9x–16y = 97(equation 1)

(2x–16) (y–4) = 8
2xy–8x–16y+64 = –56 (equation 2)

By solving both equations, we get
X= 9
Y = 8
Hence, X>Y

16. Answer is option D
Explanation:
I. x^2–50x+621 = 0
x^2–23x–27x+621 = 0
x = +23, +27

II. y^2–42y+437 = 0
y^2–19y–23y+437 = 0
y = +19, +23
Hence, x≥y

17. Answer is option B
Explanation:
I. $\frac{32}{\sqrt{x}}+\sqrt{x}=5\sqrt{x}$
32+x = 5x
$x=\frac{32}{4}$
x = 8

II. $3y+\frac{y^2+84}{y}=5y$
$\frac{y^2+64}{y}=5y-3y$

$y^2+64 = 2y^2$
$y^2 = 64$
$y = \pm 8$
Hence, $x \geq y$

18. Answer is option D
Explanation:
I. $\frac{3^3+6^2}{7} = x^2$
$\frac{27+36}{7} = x^2$
$x^2 = 9$
$x = \pm 3$

II. $17y^3 = (15\times9) + 12y^3$
$5y^3 = 15\times9$
$y^3 = 3\times9$
$y = 3$
Hence, $y \geq x$

19. Answer is option E
Explanation:
I. $6x^2-19x-36 = 0$
$6x^2-27x+8x-36 = 0$
$x = +\frac{27}{6} = +4.5$
$x = -\frac{8}{6} = -1.33$

II. $4y^2-47y+120 = 0$
$4y^2-32y-15y+120 = 0$
$y = +\frac{32}{4} = +8$
$y = +\frac{15}{4} = +3.75$
No relation

20. Answer is option C
Explanation:
$\sqrt{y}+\frac{15y}{\sqrt{y}} = 4y^{\frac{5}{2}}$
$y+15y = 4y3$
$y(1+15) = 4y3$
$16 = 4y2$
$4 = y2$
$y = \pm 2$

$4x^4 = \frac{128}{x}$
$4x^5 = 128$
$x^5 = 32$
$x^5 = 2^5$
$x = 2$
Hence, $x \geq y$

21. Answer is option E
Explanation:
I. $2x^2+21x+34 = 0$
$2x^2+17x+4x+34 = 0$
$x = -\frac{17}{2} = -8.5 , -\frac{4}{2} = -2$

II. $3y^2+23y+42 = 0$
$3y^2+14y+9y+42 = 0$
$y = -\frac{14}{3} = -4.66, -\frac{9}{3} = -3$
Hence, no relation.

22. Answer is option A
Explanation:
I. $x^2-15x-364 = 0$
$x^2-28x+13x-364 = 0$
$x = +28, -13$

II. $y^2+31y+240 = 0$
$y^2+15y+16y+240 = 0$
$y = -15, -16$
Hence, $x>y$

23. Answer is option D
Explanation:
I. $x^2 - 3481=0$
$x^2 = 3481$
$x = \pm 59$

II. $y^2 -118y +3481=0$
$y^2 -59y-59y +3481=0$
$y = +59, +59$
Hence, $x \leq y$

24. Answer is option D
Explanation:

I. $2x^2+11x+15 = 0$
$2x^2+6x+5x+15 = 0$
$x = -\frac{6}{2} = -3 , -\frac{5}{2} = -2.5$

II. $4y^2+16y+15 = 0$
$4y^2+10y+6y+15 = 0$
$y = -\frac{10}{4} = -2.5 , -\frac{6}{4} = -1.5$
Hence, x≤y

25. Answer is option E
Explanation:
I. $x^3 - 9x^2 + 20x = 0$
$x(x^2 - 9x + 20) = 0$
$x^2 - 9x + 20 = 0$
$x^2 - 4x-5x + 20 = 0$
x = 4, 5 and 0

II. $y^3 -14y^2 + 48y = 0$
$y(y^2 -14y + 48) = 0$
$y^2 -14y + 48 = 0$
$y^2 -6y -8y+ 48 = 0$
y = 6, 8 and 0
Hence, no relation

26. Answer is option E
Explanation:
I. $2x^2+x- 6 = 0$
$2x^2+4x-3x- 6 = 0$
$x = -\frac{4}{2} = -2$
$x = +\frac{3}{2} = +1.5$

II. $3y^2+y- 8 = 0$
$3y^2+6y-4y- 8 = 0$
$y = -\frac{6}{3} = -2$
$y = +\frac{4}{3} = +1.33$
Hence, no relation

27. Answer is option A
Explanation:
I. 7x + 4y = 5
II. 5x + 3y = 3

By solving both equations
x = +3
y = -4
Hence, x>y

28. Answer is option D
Explanation:
I. $\frac{25}{\sqrt{x}} - 2\sqrt{x} = 3\sqrt{x}$
25– 2x = 3x
5x = 25
x = 5

II. $2y + \frac{y^2+50}{y} = 5y$
$2y^2 + y^2+50 = 5y^2$
$2y^2 = 50$
$y^2 = 25$
$y = \pm 5$
Hence, x≥y

29. Answer is option D
Explanation:
I. $x^2+4x-28 = 0$
$x^2+7x-4x-21 = 0$
x = -7, +4

II. $y^2-12y+32 = 0$
$y^2-8y-4y+32 = 0$
$y = +8, +4$
Hence, x≤y

30. Answer is option C
Explanation:
$2x^2-4x-48 = 0$
$2(x^2-2x-24) = 0$
$x^2-2x-24 = 0$
$x^2-6x+4x-24 = 0$
$x = +6, -4$

$y^2-13y+42 = 0$
$y^2-7y-6y+42 = 0$
$y = +7, +6$
Hence, x≤y.

31. Answer is option A
Explanation:
I. $8x + 6y = 52$
II. $7x + 5y = 45$
By solving both the equations, we get
$x = 5$
$y = 2$
Hence, x>y

32. Answer is option A
Explanation:
I. $x^2 = 36$
$x = \pm 6$

II. $y^2 + 11y + 30 = 0$
$y^2 + 6y+5y + 30 = 0$
$y = -6, -5$
Hence, no relation

33. Answer is option E
Explanation:
I. $2x^2+21x+34 = 0$
$2x^2+17x+4x+34 = 0$
$x = -\frac{17}{2} = -8.5 , -\frac{4}{2} = -2$

II. $3y^2+23y+42 = 0$
$3y^2+14y+9y+42 = 0$
$y = -\frac{14}{3} = -4.66, -\frac{9}{3} = -3$
Hence, no relation.

34. Answer is option A
Explanation:
I. $x^2-15x-364 = 0$
$x^2-28x+13x-364 = 0$
$x = +28, -13$

II. $y^2+31y+240 = 0$
$y^2+15y+16y+240 = 0$
$y = -15, -16$
Hence, x>y

35. Answer is option D
Explanation:
I. $x^2 - 3481=0$
$x^2 = 3481$
$x = \pm 59$

II. $y^2 -118y +3481=0$
$y^2 -59y-59y +3481=0$
$y = +59, +59$
Hence, x≤y

36. Answer is option C
Explanation:
$x^2+14x+48 = 0$
$x^2+8x+6x+48 = 0$
$x = -8$
$x = -6$

$y^2+11y+30 = 0$
$y^2+5y+6y+30 = 0$
$y = -5$
$y = -6$
Hence, x≤y

37. Answer is option E
Explanation:

$x^2-14x+49 = 0$
$x^2-7x-7x+49 = 0$
$x = +7, +7$

$y^2-13y+40 = 0$
$y^2-8y-5y+40 = 0$
$y = +8, +5$
Hence, no relation

38. Answer is option E
Explanation:
$3\sqrt{x}-\frac{18}{\sqrt{x}} = \sqrt{x}$
$3x-18 = x$
$2x = 18$
$x = 9$

$2\sqrt{y}+\frac{y-36}{\sqrt{y}} = -\sqrt{y}$
$2y+y-36 = -y$
$4y = 36$
$y = 9$
Hence, x=y

39. Answer is option B
Explanation:
$2x^2-5x-18 = 0$
$2x^2-9x+4x-18 = 0$
$x = -\frac{9}{2} = -4.5$
$x = +\frac{4}{2} = +2$

$y^2-13y+42 = 0$
$y^2-7y-6y+42 = 0$
$y = +7, +6$
Hence, x<y

40. Answer is option A
Explanation:
$3x^2-27x+54 = 0$
$3x^2-18x-9x+54 = 0$
$x = +\frac{18}{3} = +6$
$x = +\frac{9}{3} = +3$

$2y^2-9y+10 = 0$
$2y^2-5y-4y+10 = 0$
$y = +\frac{5}{2} = +2.5$
$y = +\frac{4}{2} = +2$
Hence, x>y

41. Answer is option C
Explanation:
$\frac{6^3+9^2}{11} = x^3$
$\frac{216+81}{11} = x^3$
$\frac{297}{11} = x^3$
$x^3 = 27$
$x = +3$

$15y^3 = (36\times18) + 12y^3$
$15y^3-12y^3 = (36\times18)$
$3y^3 = (36\times18)$
$3y^3 = 648$
$y^3 = 216$
$y = +6$
Hence, x<y

42. Answer is option D
Explanation:
I. $x^2-50x+621 = 0$
$x^2-23x-27x+621 = 0$
$x = +23, +27$

II. $y^2-42y+437 = 0$
$y^2-19y-23y+437 = 0$
$y = +19, +23$
Hence, x≥y

43. Answer is option D
Explanation:
$x^2-33x+270 = 0$
$x^2-18x-15x+270 = 0$
$x = +18, +15$

$y^2-37y+342 = 0$
$y^2-18y-19y+342 = 0$

y = +18, +19
Hence, x≤y

44. Answer is option D
Explanation:
Quantity I : $x^2+25x+136 = 0$
$x^2+25x+136 = 0$
$x^2+17x+8xx+136 = 0$
x= –17,–8

Quantity II : $x^2–7x–120 = 0$
$x^2–7x–120 = 0$
$x^2–15x+8x–120 = 0$
x = +15, –8
Hence, (D) Quantity I ≤ Quantity II

45. Answer is option C
Explanation:
Quantity I: $4x^4 = \frac{128}{x}$
$4x^5 = 128$
$x^5 = 32$
$x^5 = (2)^2$
x = 2
Quantity II: $\sqrt{x}+\frac{15x}{\sqrt{x}} = 4x^{\frac{5}{2}}$
$\frac{x+15x}{\sqrt{x}} = 4x^{\frac{5}{2}}$
$x + 15x = 4x^3$
$16x = 4x^3$
$4x(4) = 4x(x^2)$
$x^2 = 4$
$x = \pm 2$
Hence, Quantity I ≥ Quantity II

46. (E)
x = – 4, – 2
y = – 4, – 3
No relation

47. (C)
$x = -\frac{3}{2}, -1$
y = 4, 3
x < y

48. (A)
x = 15
y = 13
x > y

49. (C)
x = – 6, – 78
y = – 1, – 2
x < y

50. (A)
x = 3, 4
y = – 4, – 8

51. (A)
$5x^2 – 87x + 378 = 0$
$5x^2 – 42x – 45x + 378 = 0$
$x = \frac{42}{5}, \frac{45}{5}$
= 8.4, 9
$3y^2 – 49y + 200 = 0$
$3y^2 – 24y – 25y + 200 = 0$
$x = \frac{24}{3}, \frac{25}{3}$ (8, 8.33)

52. (E)
$10x^2 – x – 24 = 0$
$10x^2 – 16x + 15x – 24 = 0$
2x (5x – 8) + 3 (5x – 8)
$x = \frac{8}{5}, \frac{-3}{2}$
y (y – 2) = 0
y = 0,2

53. (D)
$x^2 – 5x + 6 = 0$
$x^2 – 3x – 2x + 6 = 0$
x (x – 3) – 2 (x – 3)
x = 2, 3
$2y^2 – 15y + 27 = 0$
$2y^2 – 9y – 6y + 27 = 0$

y (2y – 9) – 3 (2y – 9)

y = $\frac{9}{2}$, 3

54. (B)

5 (3x + 2y = 30)

2 (7x – 5y = 74)

15x + 10y = 1505

14x – 10y = 148

29x = 1653

x = 57, y = 65

55. (C)

$14x^2 – 37x + 24 = 0$

$14x^2 – 21x – 16x + 24 = 0$

7x (2x – 3) – 8 (2x – 3)

x = $\frac{3}{2}$, $\frac{8}{7}$

$28y^2 – 53y + 24 = 0$

$28y^2 – 32y – 21y + 24 = 0$

4 (7y – 8) – 3 (7y – 8) = 0

y = $\frac{8}{7}$, $\frac{3}{2}$

56. (C)

y = 122

x = – 70

x < y

57. (A)

x = 3, 4

y = – 4, – 8

x > y

58. (B)

x = ± 3

y = – 3

x ≥ y

59. (C)

x = – 32, – 6

y = 13, 5

x < y

60. (E)

x = ± 6

y = ± 6

no relation

61. (A)

x = 3.07

y = 0.81

x > y

62. (C)

x = ± 15

y = + 37

x < y

63. (A)

x = $\sqrt{5.76} = \sqrt{(2.4)^2}$

= 2.4

$y + (2.4)^2 = 0.36$

y = 0.36 – 5.76

x > y

64. (E)

x = 0.23, 1

y = ± 0.32

No relation

65. (C)

x = 2, 4

y = 6, 8

x < y

66. (C)

$x^2 + 8x – 5x – 40 = 0$

x (x + 8) – 5 (x + 8)

x = 5, x = – 8

$y^2 – 8y – 6y + 48 = 0$

y (y – 8) – 6 (y – 8)

y = 6, 8

67. (B)

$x^2 + 2x – x – 2 = 0$
$x (x + 2) – 1 (x + 2) = 0$
$x = 1, – 2$
$y^2 + 5y + 6 = 0$
$y^2 + 3y + 2y + 6 = 0$
$y (y + 3) + 2 (y + 3)$
$y = – 2, – 3$

68. (A)
$2x^2 + 13x + 21 = 0$
$2x^2 + 7 x + 6x + 21 = 0$
$x (2x + 7) + 3 (2x + 7) = 0$
$x = – 7/2, – 3$
$2y^2 + 16y + 11y + 88 = 0$
$2y (y + 8) + 11 (y + 8)$
$y = – 8, – 11/2$

69. (B)
$x^2 + 11x + 30 = 0$
$x^2 + 6x + 5x + 3 = 0$
$x (x + 6) + 5 (x + 6)$
$x = – 5, – 6$
$y^2 + 12y + 36 = 0$
$y^2 + 6y + 6y + 36 = 0$
$(y + 6)^2 = 0$ $y = – 6, –6$

70. (D)
$2x^2 + x – 1 = 0$
$2x^2 + 2x – x – 1 = 0$
$2x (x + 1) – 1 (x + 1) = 0$
$x = – 1, 1/2$
$2y^2 – 3y + 1 = 0$
$2y^2 – 2y – y + 1 = 0$
$2y (y – 1) – 1 (y – 1) = 0$
$y = 1, 1/2$

71. (D)
$225x^2 – 4 = 0$
$(15x)^2 – (2)^2 = 0$
$(15x + 2) (15x – 2) = 0$
$x = – \frac{2}{15}, \frac{2}{15}$
$15y + 2 = 0$
$y = – \frac{2}{15}$
$x \geq y$

72. (E)
$x = 7$
$y = 7$
$x = y$

73. (E)
$x = 14$
$y = 14$
$x = y$

43. (A)
$x = – 3, – 6$
$Y = 5,8$
$x < y$

75. (D)
$x = 19$
$y = \pm 19$
$x \geq y$

76. (E)
$\sqrt{441}\ x^2 – 111 = (15)^2$
$21x^2 – 111 = 225$
$21x^2 = 336$
$x^2 = 16$
$x = \pm 4$
$\sqrt{121}\ y^2 + (6)^3 = 260$
$11y^2 + 216 = 260$
$11y^2 = 44$
$y^2 = 4$
$y = \pm 2$

77. (B)
$17x + (13)^2 – 114 = (15)^2$
$17x + 169 – 114 = 225$
$17x = 170$
$x = 10$
$\sqrt{121}\ y^2 + (6)^3 = 260$
$\sqrt{121}\ y^2 = 260 – 216$

$11y^2 = 44$
$y = \pm 2$

78. (A)
$17x = 169 + 14 + 25 + 4x$
$17x = 218 + 4x$
$13x = 218$
$x = 16$
$9y - 345 = 4y - 260$
$5y = 85$
$y = 17$

79. (D)
$6y^2 + \frac{1}{2} = \frac{7}{2}y$
$12y^2 - 7y + 1 = 0$
$12y^2 - 44y - 3y + 1 = 0$
$4y(3y - 1) - 1(3y - 1) = 0$
$(3y - 1)(4y - 1) = 0$
$y = \frac{1}{3}, \frac{1}{4}$
$12x^2 - 10x + 2 = 0$
$6x^2 - 5x + 1 = 0$
$3x(2x - 1) - 1(2x - 1)$
$x = \frac{1}{3}, \frac{1}{2}$

80. (A)
$4x^2 = 49$
$x^2 = \frac{49}{4} = \pm\frac{7}{2}$
$9y^2 - 66y + 121 = 0$
$9y^2 - 33y - 33y + 121 = 0$
$3y(3y - 11) - 11(3y - 11)$
$y = \frac{11}{3}, \frac{11}{3}$

81. (E)
$4x + 7y = 209] \times 2$
$8x + 14y = 418$
$12x - 14y = -38$
$20x = 380$
$x = 19$
$y = 19$
$x = y$

82. (B)
$x = \frac{10}{6}, \frac{15}{6}$
$y = \frac{6}{15}, \frac{10}{15}$
$x > y$

83. (A)
$6x + 5y = 30xy$
$5x + 6y = 35\,xy$
$\frac{6}{y} + \frac{5}{x} = 30] \times 6$
$\frac{5}{y} + \frac{6}{x} = 35\,] \times 5$
$\frac{36}{y} + \frac{30}{x} = 180\,; \frac{25}{y} + \frac{30}{x} = 175$
From above equations
$x = \frac{11}{60}, y = \frac{11}{5}$
$x < y$

84. (E)
$x = 28$
$Y = 28$
$x = y$

85. (B)
x = 9
y = 8
x > y

86. (E)
$\sqrt{x+18}$ = 5
x + 18 = 25
x = 7
$y^2 = 64$
$y = \pm 8$
No relation

87. (A)
y – x = 2
y = x + 2
$(x + 2)^2 - x^2 = 32$
$x^2 + 4 + 4x - x^2 = 32$
4x = 28
x = 7
y = 9
x < y

88. (E)
$x = \sqrt{5}$
$y = 5^{1/2} = \sqrt{5}$
x = y

89. (A)
$x = -\frac{13}{4}, \frac{-13}{2}$
$y = \frac{13}{5}, \frac{13}{4}$
x < y

90. (B)
$x = \frac{24}{11}$
$y = \frac{12}{8} = \frac{3}{2}$
x > y

91.(A) $x = -\frac{3}{4}, 1$

$y = -2$

$x > y$

92.(A) $x = 73$

$y = 23$

$x > y$

93. (A) $x = \frac{14}{3}, 15$

$y = 4, \frac{9}{2}$

$x > y$

94. (C) $x = \frac{7}{5}, \frac{4}{3}$

$y = 2, \frac{15}{7}$

$x < y$

95. (E) $x = 0, -14$

$y = -8, -10$

no relation

96.(D) $x = \pm 2$

$y = -2$

$x \geq y$

97. (B) $x = 12$

$y = 11$

$x > y$

98.(C) $x = \frac{1}{2}, \frac{3}{2}$

$y = \frac{3}{2}, 2$

$x \leq y$

99. (D) $x = -\frac{2}{6}, -\frac{2}{3}$

$y = \frac{-7}{4}, -\frac{2}{3}$

$x \geq y$

100. (A) $x = \frac{3}{17}, -3$

$y = \frac{6}{13}, 2$

$x < y$