## Quadratic Equations Questions

Directions (Q. 1-30): In the given questions, two equations numbered I and II are given. Solve both the equations and mark the appropriate answer.
(A) if $x>y$
(B) if $x \geq y$
(C) if $x<y$
(D) if $x \leq y$
(E) if $x=y$ or relationship between $x$ and $y$ cannot be determined.

1. I. $x^{2}+x-12=0$
II. $y^{2}+13 y+42=0$
2. 3. $4 x^{2}+32 x+63=0$
II. $y^{2}+5 y+6=0$
1. $1.10 x^{2}-7 x+1=0$
II. $35 y^{2}-12 y+1=0$
2. I. $2 x^{2}+3 x-20=0$
II. $2 y^{2}+19 y+44=0$
3. I. $x^{2}-11 x+24=0$
II. $2 y^{2}-9 y+9=0$
4. I. $x^{2}+3 x-40=0$
II. $y^{2}-14 y+48=0$
5. I. $x^{2}+x-2=0$
II. $y^{2}+5 y+6=0$
6. I. $7 x+5 y=11$
II. $7 y-8 x=51$
7. I. $x^{2}=49$
II. $y^{2}-16 y+63=0$
8. I. $2 x^{2}+13 x+21=0$
II. $2 y^{2}+27 y+88=0$
9. I. $6 x^{2}+77 x+121=0$
II. $y^{2}+9 y-22=0$
10. I. $10 x^{2}-7 x+1=0$
II. $35 y^{2}-12 y+1=0$
11. I. $5 x+8 y=208$
II. $13 x-16 y=-71$
12. I. $3 x^{2}+8 x-35=0$
II. $3 y^{2}+28 y+65=0$
13. I. $2 x^{2}-21 x+54=0$
II. $y^{2}-14 y+49=0$
14. I. $3 x^{2}+5 x-8=0$
II. $y^{2}-4 y+3=0$
15. I. $3 x^{2}+11 x+8=0$
II. $3 y^{2}+20 y+32=0$
16. I. $15 x^{2}+22 x+8=0$
II. $6 y^{2}+29 y+20=0$
17. I. $12 x^{2}+17 x+6=0$
II. $20 y^{2}+47 y+24=0$
18. I. $8 x^{2}+31 x+21=0$
II. $5 y^{2}+11 y-36=0$
19. I. $5 x^{2}-29 x+36=0$
II. $10 y^{2}-3 y-27=0$
20. I. $16 x^{2}+20 x+6=0$
II. $10 y^{2}+38 y+24=0$
21. I. $225 x^{2}-4=0$
II. $\sqrt{225} y+2=0$
22. I. $x^{2}-7 x+12=0$
II. $y^{2}+y-12=0$
23. I. $x^{2}+6 x=7$
II. $2 y^{2}-13 y+15=0$
24. I. $x^{2}-5 x-24=0$
II. $2 y^{2}+19 y+35=0$
25. I. $18 x^{2}-9 x+1=0$
II. $48 y^{2}-14 y+1=0$
26. I. $8 x^{2}+55 x-72=0$
II. $y^{2}+y-72=0$
27. I. $4 x+7 y=209$
II. $12 x-14 y=-38$
28. I. $18 x^{2}+18 x+4=0$
II. $12 y^{2}+29 y+14=0$
29. Quantity I: Overall profit percentage if the cost prices of two shirts are equal. One shirt is sold for $20 \%$ profit and the other is sold for $10 \%$ loss.
Quantity II : Profit \% made in selling each meter if the profit made in selling 20 m of a cloth equals the cost price of 5 m of that cloth.
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I $\geq$ Quantity II
(D) Quantity I $\leq$ Quantity II
(E) Quantity I = Quantity II or No relation
30. The largest possible right circular cylinder is cut out from a wooden cube of edge 7 cm .
Quantity I : volume of the cube left over after cutting out the cylinder.
Quantity II : Surface area of cube remained after cutting out the cylinder. Note: compare the magnitudes of both quantities.
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I $\geq$ Quantity II
(D) Quantity I $\leq$ Quantity II
(E) Quantity I = Quantity II or No relation
31. Quantity I: Value of y. A vessel contains 2.5 liters of water and 10 liters of milk. $20 \%$ of the contents of the vessel are removed. To the remaining contents, liters of water are added to reverse the ratio of water and milk. Then liters
of milk are added again to reverse the ratio of water and milk.
Quantity II: 120 Itr.
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I $\geq$ Quantity II
(D) Quantity I $\leq$ Quantity II
(E) Quantity I = Quantity II or No relation
32. Quantity I : Badri when works alone, takes 7.2 hrs more than the time taken by both Badri and Suresh to finish the work together. Suresh when works alone, takes 9.8 hrs more than the time taken by both Badri and Suresh to finish the work together.Time taken by both of them to complete the work working together. Quantity II: 8.4 hrs .
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I $\geq$ Quantity II
(D) Quantity I $\leq$ Quantity II
(E) Quantity I = Quantity II or No relation
33. Quantity I: Number of ways of drawing 3 balls from a box containing 5 white and 7 red balls if at least one white ball is to be included in the draw.

Quantity II: Number of different photographs. There are 5 boys and 3 girls in a family. They are photographed in groups of 2 boys and one girl.
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I $\geq$ Quantity II
(D) Quantity I $\leq$ Quantity II
(E) Quantity I = Quantity II or No relation
36. Quantity I: difference between the largest and the smallest sum. A sum of Rs. 1440 is lent out in three parts in such a way that the interests on first part at $2 \%$ for 3 years, second part at 3\% for 4 years and third part at 4\% for 5 years are equal.
Quantity II: 460
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I $\geq$ Quantity II
(D) Quantity I $\leq$ Quantity II
(E) Quantity I = Quantity II or No relation
37. Five years ago, Bina's age was three times that of Arti. Ten years ago, Bina's age was half that of Chitra. Chitra's present age is 36 years. Quantity I:Arti's current age.
Quantity II : Difference between Chitra's age and Bina's age.
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I $\geq$ Quantity II
(D) Quantity I $\leq$ Quantity II
(E) Quantity I = Quantity II or No relation
38. Ravi obtained 480 marks out of 600 and Birla obtained 560 marks out of 800 .
Quantity I. Percentage marks of Birla.
Quantity II. Percentage marks of Ravi.
(A) Quantity II $\leq$ Quantity I
(B) Quantity I $\leq$ Quantity II
(C) Quantity I > Quantity II
(D) Quantity I < Quantity II
(E) Quantity I = Quantity II
39. Quantity I. $x^{2}-20 x-96=0$

Quantity II. $\mathrm{y}^{3}=\sqrt{21952}$
(A) Quantity I > Quantity II
(B) Quantity II > Quantity I
(C) Quantity II $\leq$ Quantity I
(D) Quantity II $\geq$ Quantity I
(E) Quantity II = Quantity I or no relation
40. A boat goes downstream from one point to another in 6 hours, which is 60 km apart. It covers the same distance upstream in 15 hours. Quantity I. Speed of the swimer who goes 23 km in 3 hours.
Quantity II. Speed of the boat in still water.
(A) Quantity II $\leq$ Quantity I
(B) Quantity II $\geq$ Quantity I
(C) Quantity II > Quantity I
(D) Quantity I > Quantity II
(E) Quantity I = Quantity II or no relation

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