

Algebra - Quadratic Equations - Answers

More rational roots - Ex4

All of the following equations should be solved. They may be solved graphically or by factorisation. There is no need to use the standard formula solution technique except as a last resort. Both of the roots in each exercise are rational numbers!

1. $8x^2 - 14x - 15 = 0$
 $x = -\frac{3}{4}$ **or** $-\frac{5}{2}$

11. $84x^2 + x - 15 = 0$
 $x = \frac{5}{12}$ **or** $-\frac{3}{7}$

2. $35c^2 - 2c - 1 = 0$
 $c = -\frac{1}{7}$ **or** $\frac{1}{5}$

12. $15x^2 + x - 84 = 0$
 $x = -\frac{12}{5}$ **or** $\frac{7}{3}$

3. $14a^2 - 39a - 35 = 0$
 $a = \frac{7}{2}$ **or** $-\frac{5}{7}$

13. $9x^2 - 3x - 20 = 0$
 $x = -\frac{4}{3}$ **or** $\frac{5}{3}$

4. $6x^2 + 11x - 10 = 0$
 $x = \frac{2}{3}$ **or** $-\frac{5}{2}$

14. $20x^2 + 3x - 9 = 0$
 $x = -\frac{3}{4}$ **or** $\frac{3}{5}$

5. $6x^2 + 5x - 6 = 0$
 $x = \frac{2}{3}$ **or** $-\frac{3}{2}$

15. $9x^2 + 6x - 35 = 0$
 $x = \frac{5}{3}$ **or** $-\frac{7}{3}$

6. $10x^2 + 21x - 10 = 0$
 $x = \frac{2}{5}$ **or** $-\frac{5}{2}$

16. $21x^2 + 2x - 55 = 0$
 $x = \frac{11}{7}$ **or** $-\frac{5}{3}$

7. $15x^2 - 34x + 15 = 0$
 $x = \frac{3}{5}$ **or** $\frac{5}{3}$

17. $10x^2 + x - 65 = 0$
 $x = -\frac{13}{5}$ **or** $\frac{5}{2}$

8. $8x^2 - 18x + 9 = 0$
 $x = \frac{3}{2}$ **or** $\frac{3}{4}$

18. $16x^2 + 2x - 3 = 0$
 $x = \frac{3}{8}$ **or** $-\frac{1}{2}$

9. $48x^2 - x - 5 = 0$
 $x = -\frac{5}{16}$ **or** $\frac{1}{3}$

19. $21x^2 + x - 2 = 0$
 $x = \frac{2}{7}$ **or** $-\frac{1}{3}$

10. $10x^2 + 7x - 80 = 0$
 $x = -\frac{16}{5}$ **or** $\frac{5}{2}$

20. $24x^2 + 13x - 7 = 0$
 $x = -\frac{7}{8}$ **or** $\frac{1}{3}$