

9.5 Practice - Build Quadratics from Roots

From each problem, find a quadratic equation with those numbers as its solutions.

1) 2, 5

2) 3, 6

3) 20, 2

4) 13, 1

5) 4, 4

6) 0, 9

7) 0, 0

8) $-2, -5$

9) $-4, 11$

10) 3, -1

11) $\frac{3}{4}, \frac{1}{4}$

12) $\frac{5}{8}, \frac{5}{7}$

13) $\frac{1}{2}, \frac{1}{3}$

14) $\frac{1}{2}, \frac{2}{3}$

15) $\frac{3}{7}, 4$

16) $2, \frac{2}{9}$

17) $-\frac{1}{3}, \frac{5}{6}$

18) $\frac{5}{3}, -\frac{1}{2}$

19) $-6, \frac{1}{9}$

20) $-\frac{2}{5}, 0$

21) ± 5

22) ± 1

23) $\pm \frac{1}{5}$

24) $\pm \sqrt{7}$

25) $\pm \sqrt{11}$

26) $\pm 2\sqrt{3}$

27) $\pm \frac{\sqrt{3}}{4}$

28) $\pm 11i$

29) $\pm i\sqrt{13}$

30) $\pm 5i\sqrt{2}$

31) $2 \pm \sqrt{6}$

32) $-3 \pm \sqrt{2}$

33) $1 \pm 3i$

34) $-2 \pm 4i$

35) $6 \pm i\sqrt{3}$

36) $-9 \pm i\sqrt{5}$

37) $\frac{-1 \pm \sqrt{6}}{2}$

38) $\frac{2 \pm 5i}{3}$

39) $\frac{6 \pm i\sqrt{2}}{8}$

40) $\frac{-2 \pm i\sqrt{15}}{2}$



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Answers - Build Quadratics from Roots

NOTE: There are multiple answers for each problem. Try checking your answers because your answer may also be correct.

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|----------------------------|---------------------------|----------------------------|
| 1) $x^2 - 7x + 10 = 0$ | 15) $7x^2 - 31x + 12 = 0$ | 29) $x^2 + 13 = 0$ |
| 2) $x^2 - 9x + 18 = 0$ | 16) $9x^2 - 20x + 4 = 0$ | 30) $x^2 + 50 = 0$ |
| 3) $x^2 - 22x + 40 = 0$ | 17) $18x^2 - 9x - 5 = 0$ | 31) $x^2 - 4x - 2 = 0$ |
| 4) $x^2 - 14x + 13 = 0$ | 18) $6x^2 - 7x - 5 = 0$ | 32) $x^2 + 6x + 7 = 0$ |
| 5) $x^2 - 8x + 16 = 0$ | 19) $9x^2 + 53x - 6 = 0$ | 33) $x^2 - 2x + 10 = 0$ |
| 6) $x^2 - 9x = 0$ | 20) $5x^2 + 2x = 0$ | 34) $x^2 + 4x + 20 = 0$ |
| 7) $x^2 = 0$ | 21) $x^2 - 25 = 0$ | 35) $x^2 - 12x + 39 = 0$ |
| 8) $x^2 + 7x + 10 = 0$ | 22) $x^2 - 1 = 0$ | 36) $x^2 + 18x + 86 = 0$ |
| 9) $x^2 - 7x - 44 = 0$ | 23) $25x^2 - 1 = 0$ | 37) $4x^2 + 4x - 5 = 0$ |
| 10) $x^2 - 2x - 3 = 0$ | 24) $x^2 - 7 = 0$ | 38) $9x^2 - 12x + 29 = 0$ |
| 11) $16x^2 - 16x + 3 = 0$ | 25) $x^2 - 11 = 0$ | 39) $64x^2 - 96x + 38 = 0$ |
| 12) $56x^2 - 75x + 25 = 0$ | 26) $x^2 - 12 = 0$ | 40) $4x^2 + 8x + 19 = 0$ |
| 13) $6x^2 - 5x + 1 = 0$ | 27) $16x^2 - 3 = 0$ | |
| 14) $6x^2 - 7x + 2 = 0$ | 28) $x^2 + 121 = 0$ | |

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