

Honors Math 3

Unit 4 - Day 3 Homework

Please do your work on a separate sheet of paper. You must show ALL work and attempt ALL problems to receive full credit. Please check your answers BEFORE class!

p.196 #1-19 odd

Solve. Identify all double roots.

1. $(x - 1)(x - 4) = 0$ $\{1, 4\}$
3. $t(t + 1)(t - 2) = 0$ $\{0, -1, 2\}$
5. $(s - 1)^2(s - 3)^2 = 0$ $\{1 \text{ (dr)}, 3 \text{ (dr)}\}$
7. $z^2 + 3 = 4z$ $\{1, 3\}$
9. $t^3 - t = 0$ $\{-1, 0, 1\}$
11. $x^3 + 4x = 4x^2$ $\{0, 2 \text{ (dr)}\}$
13. $3r^2 = 4r - 1$ $\{1/3, 1\}$
15. $2y^2 + y = 6$ $\{-2, 3/2\}$
17. $6 - 7u = 3u^2$ $\{-3, 2/3\}$
19. $6(x + 12) = x^2$ $\{-6, 12\}$
21. $(y - 4)^2 = 2y$ $\{2, 8\}$
23. $3t(t + 1) = 4(t + 1)$
25. $(x - 1)(x^2 + x - 2) = 0$
27. $y^2(y - 3)(y^2 - 9) = 0$

p.342 #7-23 odd

Find a quadratic equation with *integral coefficients* having the given roots.

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| 7. 2, 5 | 8. -3, 1 | 9. $-2, \frac{5}{2}$ |
| 10. $\frac{3}{2}, -\frac{1}{2}$ | 11. $-\sqrt{3}, \sqrt{3}$ | 12. $-\frac{\sqrt{5}}{2}, \frac{\sqrt{5}}{2}$ |
| 13. $1 + \sqrt{3}, 1 - \sqrt{3}$ | 14. $2 + \sqrt{7}, 2 - \sqrt{7}$ | 15. $\frac{1 + \sqrt{2}}{3}, \frac{1 - \sqrt{2}}{3}$ |
| 16. $\frac{-2 + \sqrt{5}}{4}, \frac{-2 - \sqrt{5}}{4}$ | 17. $i\sqrt{5}, -i\sqrt{5}$ | 18. $2i\sqrt{2}, -2i\sqrt{2}$ |
| 19. $3 + i, 3 - i$ | 20. $4 + 2i, 4 - 2i$ | 21. $5 + i\sqrt{2}, 5 - i\sqrt{2}$ |
| 22. $-2 + i\sqrt{7}, -2 - i\sqrt{7}$ | 23. $\frac{1 - i\sqrt{5}}{4}, \frac{1 + i\sqrt{5}}{4}$ | 24. $\frac{2 + i\sqrt{3}}{2}, \frac{2 - i\sqrt{3}}{2}$ |

⑦ $x^2 - 7x + 10 = 0$

⑨ $2x^2 - x - 10 = 0$

⑪ $x^2 - 3 = 0$

⑬ $x^2 - 2x - 2 = 0$

⑮ $9x^2 - 6x - 1 = 0$

⑰ $x^2 + 5 = 0$

⑲ $x^2 - 6x + 10 = 0$

⑳ $x^2 - 10x + 27 = 0$

㉓ $8x^2 - 4x + 3 = 0$