

Find the rational roots of each equation.

11.  $2x^3 - 9x^2 + 3x + 4 = 0$

13.  $4x^3 - 13x + 6 = 0$

15.  $2x^4 + 3x^3 + 6x^2 + 12x - 8 = 0$

12.  $6x^3 + 7x^2 - 9x + 2 = 0$

14.  $4x^3 - 8x^2 - 7x + 5 = 0$

16.  $4x^4 - 4x^3 + x^2 - 4x - 3 = 0$

Express each rational expression as a sum by using division.

17.  $\frac{12y^3 + 5y^2 - 18y + 4}{4y - 1}$

18.  $\frac{4z^3 - 19z + 15}{2z + 5}$

B 19.  $\frac{32b^5 + 9}{2b + 1}$

20.  $\frac{5m^4 - 13m^3 - 19m^2 + 9}{5m - 3}$

21.  $\frac{2w^4 - 2w^3 - 13w^2 + 23w - 10}{w^2 - 3w + 2}$

22.  $\frac{4x^4 - 5x^3 - x + 2}{x^2 - 2x + 1}$

23.  $\frac{2v^4 + v^3 - 17v^2 - 5v}{v^2 - 6}$

24.  $\frac{8a^3 + 27}{4a^2 - 6a + 9}$

use

Synthetic division

use

long division