

Do these problems on Workbook page 147: 6, 7, 8, 9

Copy these problems onto your own paper and show work.

1. Factor $p(x) = 15x^3 - 119x^2 - 10x + 16$, given that $p(8) = 0$.

2. Factor $p(x) = x^3 + 11x^2 - 150x - 1512$, given that $x + 14$ is a factor of $p(x)$.

Find all solutions (real and complex).

3. $2x^4 = 162$

4. $2x^3 - 3x^2 - 10x + 15 = 0$

5. $8x^3 - 1 = 0$

6. $12x^5 - 39x^3 = 36x$

Answers: 1. $(x-8)(5x+2)(3x-1)$

2. $(x+14)(x-12)(x+9)$

3. $\pm 3, \pm 3i$

4. $\pm\sqrt{5}, \frac{3}{2}$

5. $\frac{1}{2}, \frac{-1 \pm i\sqrt{3}}{4}$

6. $0, \pm 2, \frac{\pm i\sqrt{3}}{2}$

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