Curso Mentor

www.cursomentor.com

Professor: Leonardo Santos
Tema: Produtos Notáveis III
Data: 5 de fevereiro de 2014

Q1. Desenvolva os produtos notáveis a seguir:

1. $(x+1)^2$
2. $(x-1)^2$
3. $(1-x)^2$
4. $(2x+1)^2$
5. $(2-5x)^2$
6. $(3x+2)^2$
7. $(-x+3)^2$
8. $(-x-4)^2$
9. $(\frac{x}{-2}+7)^2$
10. $(\frac{1}{3}x+2)^2$
11. $(\frac{2}{5}x-\frac{1}{9})^2$
12. $(\frac{3}{4}-\frac{2}{3}x)^2$
13. $(x^2-3)^2$
14. $(\frac{1}{5}x^3-\frac{1}{-3})^2$
15. $(\frac{1}{3}x^{10}-7)^2$
16. $(x-0,1)^2$
17. $(0,3x-0,7)^2$
18. $(x-0,\overline{3})^2$
19. $(\frac{1}{0,\overline{99}}x-0,9\overline{9})^2$
20. $(x+\sqrt{2})^2$
21. $(\sqrt{3}x-5)^2$
22. $(\sqrt{2}x-\sqrt{5})^2$
23. $(-\sqrt{2}x+\frac{2}{3})^2$
24. $(\frac{x}{\sqrt{7}}-1)^2$
25. $(\frac{\sqrt{3}}{\sqrt{7}}x-\sqrt{2})^2$
26. $(-x+1+\sqrt{3})^2$
27. $[(1-\sqrt{2})x+3]^2$
28. $[(2+\sqrt{3})x+1-\sqrt{3}]^2$
29. $(\frac{x^2}{3}+\frac{1}{5}-\sqrt{7})^2$
30. $(x+\frac{1}{1+\sqrt{5}})^2$
31. $(\frac{x}{-1+\sqrt{7}}+2)^2$
32. $(\frac{x}{2+\sqrt{3}}-\frac{1}{2-\sqrt{3}})^2$
33. $(x+\frac{1+\sqrt{3}}{1-\sqrt{3}})^2$
34. $(\frac{1+\sqrt{3}}{\sqrt{5}-1}x-1)^2$
35. $(x+\sqrt{2}+\sqrt{3})^2$
36. $(\sqrt{2}x+\sqrt{3}+\sqrt{5})^2$
37. $(x+\frac{\sqrt{2}+\sqrt{3}}{\sqrt{5}})^2$
38. $(x-\sqrt[3]{2})^2$
39. $(x+\frac{1}{\sqrt[3]{2}})^2$
40. $(\sqrt[3]{3}x-\sqrt[3]{4})^2$
41. $(\sqrt[3]{3}x-\sqrt[6]{2})^2$
42. $(x+\frac{1}{x})^2$

43. $(x^2 - \frac{1}{x})^2$
44. $(\sqrt{x} - 3)^2$
45. $(x^3 - x^7)^2$
46. $(x + \sqrt{2} + \sqrt{3} + \sqrt{5})^2$
47. $(\sqrt[3]{x} + \sqrt[6]{x})^2$
48. $(\sqrt{x} + \frac{1}{\sqrt{x}})^2$

Gabarito

Q1.

1. $x^2 + 2x + 1$
2. $x^2 - 2x + 1$
3. $1 + 2x + x^2$
4. $4x^2 + 4x + 1$
5. $4 - 20x + 25x^2$
6. $9x^2 + 12x + 4$
7. $x^2 - 6x + 9$
8. $x^2 + 8x + 16$
9. $\frac{x^2}{4} - \frac{7x}{2} + 49$
10. $\frac{x^2}{9} + \frac{4x}{3} + 4$
11. $\frac{4x^2}{25} - \frac{4x}{45} + \frac{1}{81}$
12. $\frac{9}{16} - x + \frac{4x^2}{9}$
13. $x^4 - 6x^2 + 9$
14. $\frac{x^6}{25} + \frac{2x^3}{15} + \frac{1}{9}$
15. $\frac{x^{20}}{9} - \frac{14x^{10}}{3} + 49$
16. $x^2 - 0,2x + 0,01$
17. $0,09x^2 - 0,42x + 0,49$
18. $x^2 - \frac{2x}{3} + \frac{1}{9}$
19. $x^2 - 2x + 1$
20. $x^2 + 2\sqrt{2}x + 2$
21. $3x^2 - 10\sqrt{3}x + 25$
22. $2x^2 - 2\sqrt{10}x + 5$
23. $2x^2 - \frac{4\sqrt{2}x}{3} + \frac{4}{9}$
24. $\frac{x^2}{7} - \frac{2\sqrt{7}x}{7} + 1$
25. $\frac{3x^2}{7} - \frac{2\sqrt{42}x}{\sqrt{7}} + 2$
26. $x^2 - 2(1 + \sqrt{3})x + 4 + 2\sqrt{3}$
27. $(3 - 2\sqrt{2})x^2 + 6(1 - \sqrt{2})x + 9$
28. $(5 + 4\sqrt{3})x^2 - 2(1 + \sqrt{3})x + 4 - \sqrt{3}$
29. $\frac{x^2}{9} + \frac{2-10\sqrt{7}}{15}x + \frac{8-2\sqrt{7}}{25}$
30. $x^2 + \frac{\sqrt{5}-1}{2}x + \frac{3-\sqrt{5}}{8}$
31. $\frac{4+\sqrt{7}}{18}x^2 + \frac{2(1+\sqrt{7})}{3}x + 4$
32. $(7 - 4\sqrt{3})x^2 - 2x + 7 + 4\sqrt{3}$
33. $x^2 - (2 + \sqrt{3})x + 7 + 4\sqrt{3}$
34. $(5\sqrt{5} + 24 + 4\sqrt{15} + 12\sqrt{3})x^2 - \frac{\sqrt{5}+1+\sqrt{15}+\sqrt{3}}{2}x + 1$
35. $x^2 + 2(\sqrt{2} + \sqrt{3})x + 5 + 2\sqrt{6}$
36. $2x^2 + 2(\sqrt{6} + \sqrt{10})x + 8 + 2\sqrt{10}$
37. $x^2 + \frac{2(\sqrt{2}+\sqrt{3})}{5}x + \frac{5+2\sqrt{6}}{5}$
38. $x^2 - 2\sqrt[3]{2}x + \sqrt[3]{4}$
39. $x^2 + \sqrt[3]{4}x + \frac{\sqrt[3]{2}}{2}$

40. $\sqrt[3]{9}x^2 - 2\sqrt[3]{12}x + 2\sqrt[3]{2}$

41. $\sqrt[3]{9}x^2 - 2\sqrt[6]{18}x + \sqrt[3]{2}$

42. $x^2 + 2 + \frac{1}{x^2}$

43. $x^4 - 2x + \frac{1}{x^2}$

44. $x - 6\sqrt{x} + 9$

45. $x^6 - 2x^{10} + x^{14}$

46. $x^2+2(\sqrt{2}+\sqrt{3}+\sqrt{5})x+10+2\sqrt{6}+4\sqrt{10}$

47. $\sqrt[3]{x^2} + 2\sqrt{x} + \sqrt[3]{x}$

48. $x + 2 + \frac{1}{x}$