Universidade de Brasília – UnB
Faculdade UnB Gama – FGA
Cálculo 1
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LISTA DE EXERCÍCIOS P1 – 300

(Parte 01)

Questão 1 Efetue simplificando quando possível:

a) $\frac{1}{3}-\frac{2}{5}$ $= \frac{5-6}{15} = \boxed{\frac{-1}{15}}$

b) $\frac{1}{2}+\frac{3}{5}-\frac{2}{7}$ $= \frac{35+42-20}{70} = \boxed{\frac{57}{70}}$

c) $\frac{2}{5}\left(\frac{1}{3}-\frac{1}{1}\right)^2-1$ $= \frac{2}{5}\left(\frac{1-3}{3}\right)^2-1 = \frac{2}{5}\cdot\frac{4}{9}-1 = \frac{8}{45}-1 = \frac{8-45}{45} = \boxed{\frac{-37}{45}}$

$2-3=-1$

d) $\sqrt{\frac{9}{5}}\cdot\sqrt[3]{5}\cdot\frac{1}{\sqrt[3]{3}}$ $= \frac{\sqrt{9}}{\sqrt{5}}\cdot\frac{\sqrt[3]{5}}{\sqrt[3]{3}} = \frac{\sqrt[6]{9^3\cdot 5^2}}{\sqrt[6]{5^3\,3^2}} = \frac{\sqrt[6]{3^6\cdot 5^2}}{\sqrt[6]{5^3\,3^2}} = \frac{3\sqrt[6]{5^2}}{\sqrt[6]{5^3\cdot 3^2}} = \boxed{\frac{3}{\sqrt[6]{5\cdot 3^2}}}$

e) $(x^2-2)^2(x^3+5)$ $= x^2-4x+4\,(x^3+5) = x^5+5x^2-4x^4-20x+4x^3+20 = x^5-4x^4+4x^3+5x^2-20x+20$

f) $\left(\sqrt[3]{x}-3\right)^2 x+1$

g) $\left(\sqrt[3]{x}\,y^2\right)^3(x+xy)$

Questão 2 Fatore:

a) x^2+6x $\boxed{x(x+6)}$

b) x^2-x-12 $= 1x^2-4x+3x-12 = x(x-4)+3(x-4) = \boxed{(x+3)(x-4)}$

c) $x^2-21x+110$ $=$

d) $x^2+8x+15$

e) x^2-4 $(x-2)(x+2)$

f) x^3-8 $(x-2)(x^2+2x+4)$

g) x^3+8 $(x+2(x^2-2x+4)$

h) x^3+2