

Aluno(a) ● ● ●

Disciplina

Matemática

Professor(a)

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Ano

9º

Turma

Data

03/03

Lista nº 05 – Gabarito

$$1. a) \frac{1}{\sqrt{7}} = \frac{1\sqrt{7}}{\sqrt{7} \cdot \sqrt{7}} = \frac{\sqrt{7}}{\sqrt{7^2}} = \frac{\sqrt{7}}{7}$$

$$b) \frac{8}{\sqrt{12}} = \frac{8\sqrt{12}}{\sqrt{12} \cdot \sqrt{12}} = \frac{8 \cdot 2\sqrt{3}}{\sqrt{12^2}} = \frac{16\sqrt{3}}{12} = \frac{4\sqrt{3}}{3}$$

$$c) \frac{7}{3\sqrt{5}} = \frac{7\sqrt{5}}{3\sqrt{5} \cdot \sqrt{5}} = \frac{7\sqrt{5}}{3\sqrt{5^2}} = \frac{7\sqrt{5}}{3 \cdot 5} = \frac{7\sqrt{5}}{15}$$

$$d) -\frac{5}{4\sqrt{10}} = -\frac{5\sqrt{10}}{4\sqrt{10} \cdot 10} = -\frac{5\sqrt{10}}{4\sqrt{10^2}} = -\frac{5\sqrt{10}}{4 \cdot 10} = -\frac{5\sqrt{10}}{40} = -\frac{\sqrt{10}}{8}$$

$$2. \frac{1}{\sqrt{5} + \sqrt{2}} = \frac{1 \cdot (\sqrt{5} - \sqrt{2})}{(\sqrt{5} + \sqrt{2}) \cdot (\sqrt{5} - \sqrt{2})} = \frac{\sqrt{5} - \sqrt{2}}{\sqrt{5^2 - 2^2}} = \frac{\sqrt{5} - \sqrt{2}}{\sqrt{25 - 4}} = \frac{\sqrt{5} - \sqrt{2}}{5 - 2} = \frac{\sqrt{5} - \sqrt{2}}{3}$$

3.

$$a) \frac{(\sqrt{2} + \sqrt{3}) \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} = \frac{\sqrt{2^2} + \sqrt{6}}{\sqrt{2^2}} = \frac{2 + \sqrt{6}}{2}$$

$$b) \frac{(1 - \sqrt{5}) \cdot \sqrt{5}}{2\sqrt{5} \cdot \sqrt{5}} = \frac{\sqrt{5} - \sqrt{5^2}}{2 \cdot \sqrt{5^2}} = \frac{\sqrt{5} - 5}{10}$$

$$4. \frac{\sqrt{2} + \sqrt{18}}{\sqrt{2}} = \frac{(\sqrt{2} + \sqrt{18}) \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} = \frac{\sqrt{4} + \sqrt{36}}{2} = \frac{2 + 6}{2} = \frac{8}{2} = 4.$$

$$5. a) \hat{A} \cong \hat{M}; \hat{M} = 60^\circ.$$

$$\hat{B} \cong \hat{N}; \hat{B} = 40^\circ.$$

Sim, os triângulos são semelhantes.

$$b) \hat{B} \cong \hat{P}; \hat{P} = 30^\circ.$$

$$\hat{C} \cong \hat{T}; \hat{C} = 70^\circ.$$

Sim, os triângulos são semelhantes.

$$6. \frac{\overline{AB}}{\overline{ATBT}} = \frac{\overline{BC}}{\overline{ATCT}} = \frac{\overline{AC}}{\overline{BTCT}}$$

$$\frac{27}{9} = \frac{18}{3} = \frac{15}{5}$$

$$\frac{3}{1} = \frac{18}{6} = \frac{3}{1}$$

$$\frac{1}{3} = \frac{18}{54} = \frac{1}{3}$$

$$3x = 18.1$$

$$3x = 18$$

$$x = \frac{18}{3}$$

$$x = 6.$$