

$$1) \frac{(3\sqrt{6})^2}{18} = 3$$

$$3) \frac{14}{(2\sqrt{7})^2} = 0,5$$

$$5) \frac{\sqrt{200}}{4\sqrt{2}} = \frac{10}{4} = 2,5$$

$$7) \frac{\sqrt{200}}{\sqrt{8}} = 5$$

$$9) \sqrt{45 \cdot 27} \cdot \sqrt{60} = \sqrt{3 \cdot 15 \cdot 9 \cdot 3 \cdot 4} = 3 \cdot 15 \cdot 3 \cdot 2 = 270$$

$$11) \sqrt{8} \cdot \sqrt{2} + 3 = \sqrt{4 \cdot 2} + 3 = 4 + 3 = 7$$

$$13) \sqrt{16^4} = 256$$

$$\boxed{\sqrt[n]{a^m} = a^{\frac{m}{n}}}$$

$$15) \sqrt{72} + \sqrt{8} - 8\sqrt{2} + 2 = 4\sqrt{8} - 8\sqrt{2} + 2 = 8\sqrt{2} - 8\sqrt{2} + 2 = 2$$

$$17) (\sqrt{10} - 6)(\sqrt{10} + 6) = 10 - 36 = -26$$

$$19) \sqrt{54} - \sqrt{24} - \sqrt{6} + 12 = 3\sqrt{6} - 2\sqrt{6} - \sqrt{6} + 12 = 12$$

$$21) (\sqrt{62} + 3)^2 - 6\sqrt{62} = 62 + 6\sqrt{62} + 9 - 6\sqrt{62} = 71$$

$$23) \frac{(6^5)^{-6}}{6^{-32}} = \frac{6^{-30}}{6^{-32}} = 6^{-30 - (-32)} = 6^2 = 36$$

$$25) 3^{-11} \cdot (3^5)^3 = 3^4 = 81$$

$$27) \frac{4^{-2} \cdot 4^{-6}}{4^{-10}} = \frac{4^{-8}}{4^{-10}} = 4^2 = 16$$

$$29) \frac{4^{15}}{8^9} = \frac{2^{15} \cdot 2^{15}}{2^9 \cdot 2^9 \cdot 2^9} = \frac{2^{30}}{2^{27}} = 2^3 = 8$$

$$31) \frac{3^{17} \cdot 6^{16}}{18^{15}} = \frac{2^{16} 3^{33}}{2^{15} 3^{45}} = 2 \cdot 3^{-2} = \frac{1}{9}$$

$$33) \sqrt{3 \cdot 7^2} \cdot \sqrt{3 \cdot 2^4} = \cancel{7} \sqrt{3} \cdot 4 \cancel{\sqrt{3}} = 84$$

$$35) \sqrt{2^4 \cdot 3^2 \cdot 5^4} = 4 \cdot 3 \cdot 25 = 300$$

$$37) 8\sqrt{6} \cdot \sqrt{2} \cdot 2\sqrt{3} = 8 \cancel{\sqrt{2}} \cdot \cancel{\sqrt{2}} \cdot 2 \cancel{\sqrt{3}} = 8 \cdot 2 \cdot 3 = 96$$

$$39) (\sqrt{20} - \sqrt{5}) \cdot \sqrt{5} = \overbrace{8 \cdot 2 \cdot \sqrt{6 \cdot 2 \cdot 3}}^{10 - 5 = 5} = 8 \cdot 2 \sqrt{36} = 8 \cdot 2 \cdot 6 = 96$$

$$41) (5 + \sqrt{2})^2 + (5 - \sqrt{2})^2 = 25 + \cancel{10\sqrt{2}} + 2 + 25 - \cancel{10\sqrt{2}} + 2 = 54$$

$$43) \sqrt{(3\sqrt{2} - 5)^2} + 3\sqrt{2} = \cancel{3\sqrt{2}} - 5 - \cancel{\sqrt{2}} = -5$$

$$45) \frac{(2^2 \cdot 2^4)^7}{(2 \cdot 2^6)^6} = \frac{2^{14} \cdot 2^{28}}{2^6 \cdot 2^{36}} = 1 \quad \frac{(2^6)^7}{(2^7)^6} = \frac{2^{42}}{2^{42}} = 1$$

$$47) \frac{1}{5^{-8}} \cdot \frac{1}{5^6} = \frac{1}{5^{-2}} = \frac{1}{25} = 0,04 \quad \boxed{a^{-n} = \frac{1}{a^n}}$$

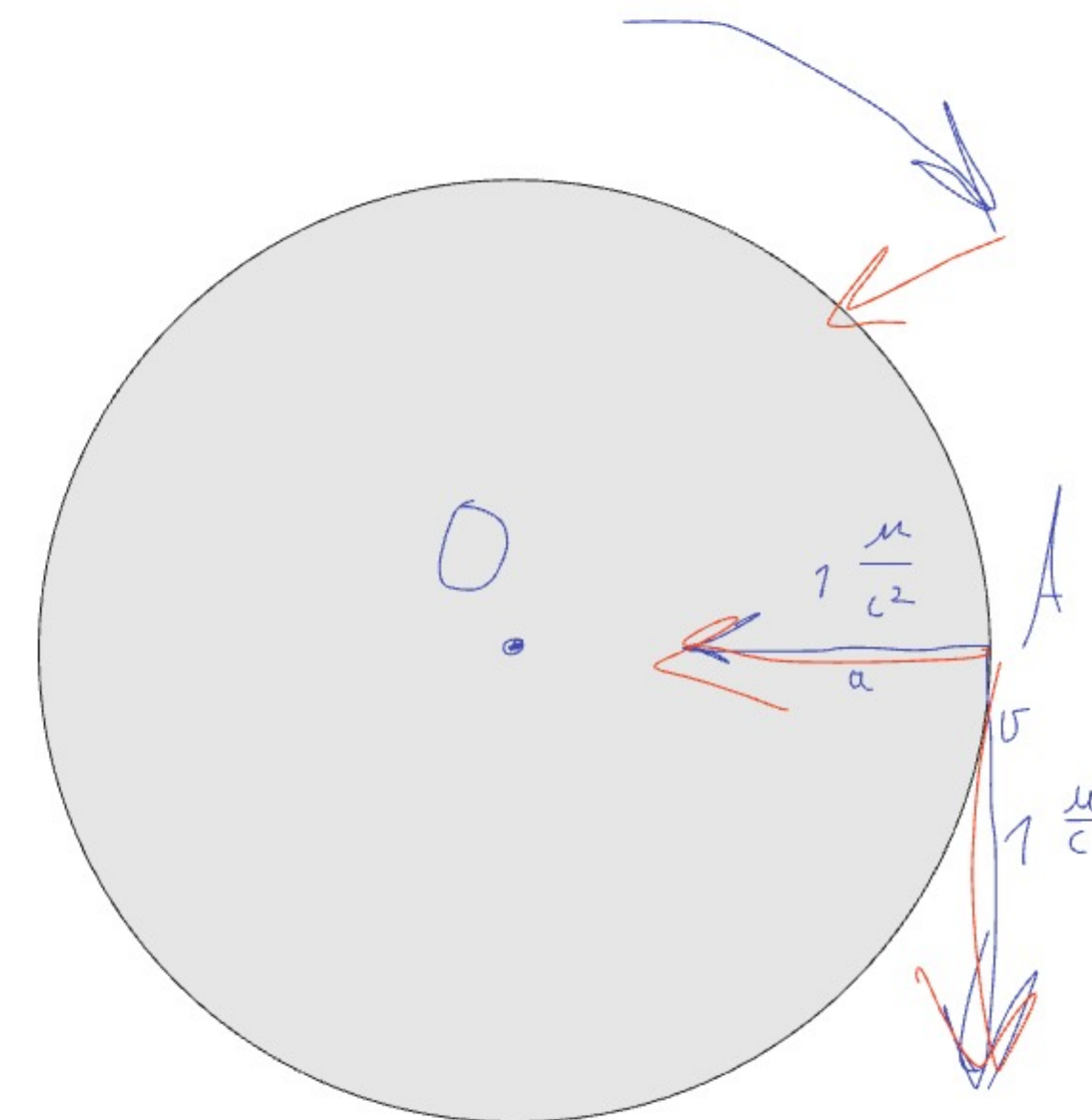
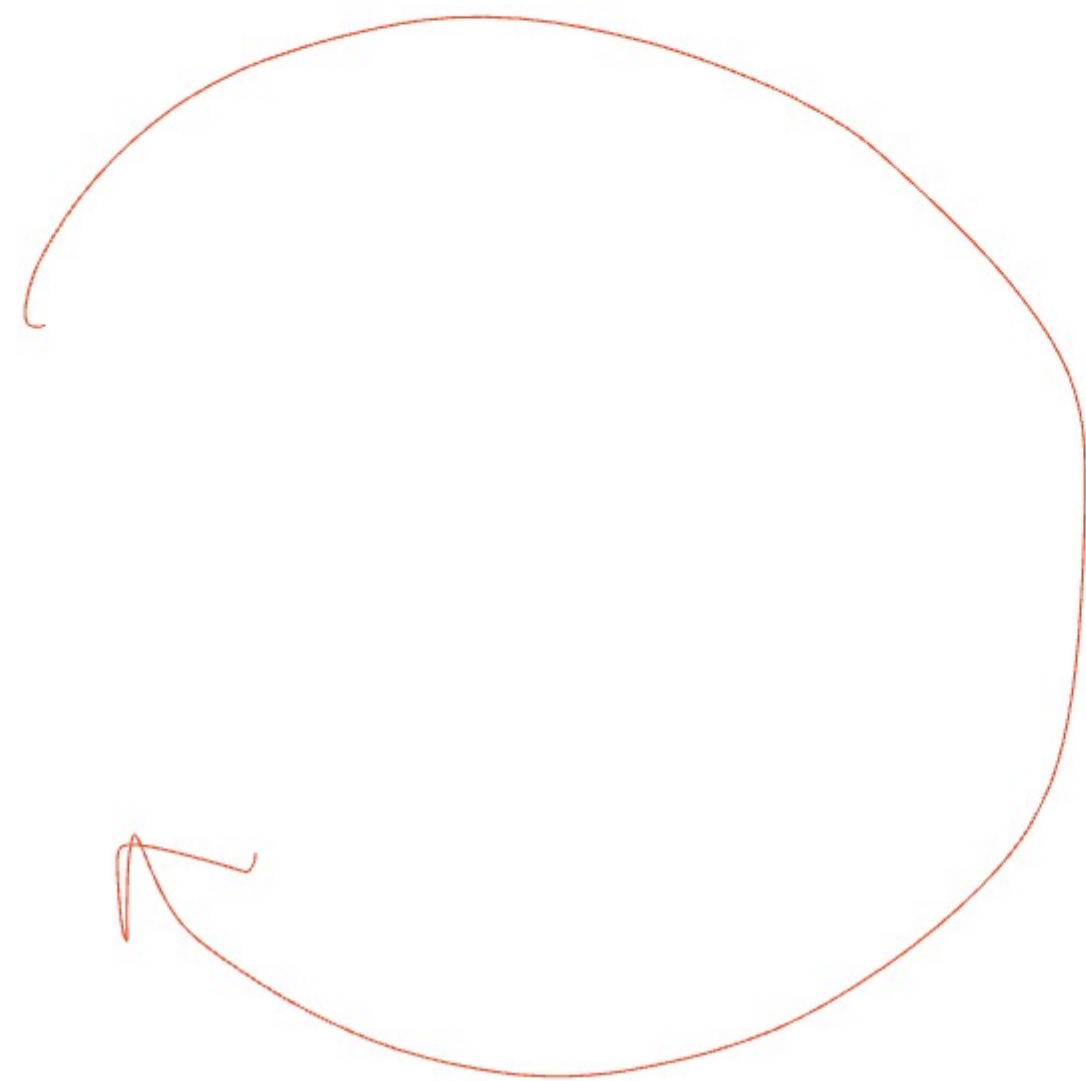
$$49) \frac{5^5}{25} = 5^3 = 125$$

$$51) \sqrt{(-17)^2} = -17$$

$$53) \frac{1}{3+\sqrt{7}} \cdot \frac{1}{3-\sqrt{7}} = \frac{1}{9-7} = 0,5$$

$$55) \frac{\frac{1}{3-2\sqrt{2}}}{3+2\sqrt{2}} + \frac{\frac{1}{3+2\sqrt{2}}}{3-2\sqrt{2}} = \frac{3-2\sqrt{2} + 3+2\sqrt{2}}{(3+2\sqrt{2})(3-2\sqrt{2})} = \frac{6}{9-8} = 6$$

центростремительное
ускорение



$\omega = ?$

$$\omega = \frac{v^2}{R}$$

Дано:

$$R = 2 \text{ м}$$

$$T = 6,28 \text{ с. (период)}$$

$$a = ?$$

$$a = \frac{v^2}{R} = \left(\frac{2\pi R}{T} \right)^2 \cdot \frac{R}{1} = \frac{4\pi^2 R \cdot 1}{T^2 \cdot R} = \frac{4\pi^2 R}{T^2}$$

$$a = \frac{4\pi^2 R}{T^2}$$

$$v = \omega R = \frac{2\pi}{T} \cdot R = \frac{2\pi R}{T}$$

$$\nu = \frac{1}{T} ; (\omega = 2\pi \nu)$$

$$\omega = 2\pi \cdot \frac{1}{T}$$