

Math R3

Review for Exam 2 – Rational expressions, radicals, rational exponents (04, 05, 06)

1	$\frac{25x^3 - 3x^5}{-5x^2} =$
2	$\frac{x^2 - 2x - 15}{x^2 - 3x - 10} =$
3	$\frac{4 - x^2}{x^2 + 2x - 8} =$
4	$\frac{50x}{x^2 - 3x - 10} \cdot \frac{x-5}{10x} =$
5	$\frac{25 - 9x^2}{8x^2} \div \frac{3x - 5}{4x} =$
6	$\frac{x}{3} - \frac{7}{x+2} =$
7	$\frac{7}{3x^2} + \frac{1}{4x} + \frac{5}{12x} =$
8	$\frac{x^2 - 2x + 4}{2x + 5} - \frac{4 + 2x - 5x^2}{2x + 5} =$
9	$\frac{x+1}{x^2 - x} + \frac{5}{x^2} =$
10	$\frac{\frac{5}{ab}}{\frac{a}{b} + \frac{b}{a}} =$
11	$\frac{4 - \frac{3}{x^2}}{2 - \frac{1}{x}} =$
12	$\sqrt[3]{-27} =$
13	$\sqrt[6]{x^{12}y^{30}} =$
14	$\frac{2x-1}{x-5} - \frac{x}{3} =$
15	$\frac{2}{x(x+1)(x+2)} - \frac{5}{x(x+1)(x+3)} =$
16	$3\sqrt{45} + 5\sqrt{20} =$
17	Simplify: $\sqrt[3]{128} =$
18	$5\sqrt[3]{5} + \sqrt[3]{40} =$
19	$\sqrt{320} - \sqrt{45} =$
20	$(5\sqrt{3})(2\sqrt{3}) =$
21	$\sqrt{5x^3y}\sqrt{5xy^5} =$
22	$(3 + 5\sqrt{3})(2 - 3\sqrt{3}) =$

23	$\frac{\sqrt{8x^5y}}{\sqrt{2xy}} =$
24	Rationalize the denominator: $\frac{6}{5\sqrt{3}} =$
25	Rationalize the denominator: $\frac{3+\sqrt{2}}{2+3\sqrt{2}} =$
26	$\left(\frac{16}{81}\right)^{-\frac{1}{4}} =$
27	$(-27)^{\frac{2}{3}} =$
28	$(8x^6y^{30})^{\frac{2}{3}} =$
29	$x^{1/5}x^{2/7}x^{3/5} =$

Answers:

1	$\frac{x(25 - 3x^2)}{-5}$	2	$\frac{x + 3}{x + 2}$	3	$\frac{-2 - x}{x + 4}$	4	$\frac{5}{x + 2}$
5	$\frac{-5 - 3x}{2x}$	6	$\frac{x^2 + 2x - 21}{3(x + 2)}$	7	$\frac{7 + 2x}{3x^2}$	8	$\frac{(6x^2 - 4x)}{2x + 5}$
9	$\frac{x^2 + 6x - 5}{x^2(x - 1)}$	10	$\frac{5}{a^2 + b^2}$	11	$\frac{4x^2 - 3}{2x^2 - x}$	12	-3
13	x^2y^5	14	$\frac{-x^2 + 11x - 3}{3(x - 5)}$	15	$\frac{-3x - 4}{x(x + 1)(x + 2)(x + 3)}$	16	$19\sqrt{5}$
17	$4\sqrt[3]{2}$	18	$7\sqrt[3]{5}$	19	$5\sqrt{5}$	20	30
21	$5x^2y^3$	22	$-39 + \sqrt{3}$	23	$2x^2$	24	$\frac{2\sqrt{3}}{5}$
25	$\frac{\sqrt{2}}{2}$	26	$\frac{3}{2}$	27	9	28	$4x^4y^{20}$
29	$x^{\frac{38}{35}}$						