

Math R3 – Review for final		Answers
1	Find the additive inverse of: $ -5 $	-5
2	Find the multiplicative inverse of: $5\frac{3}{4}$	$\frac{4}{23}$
3	Subtract -2 from -7 .	-5
4	$7 - 3(2 - 5) + 10$	26
5	Which are rational but not integer: $\frac{6}{3}, \sqrt{25}, \sqrt{4}, 2\frac{1}{5}, 3.4567, 2.343434 \dots, 5\pi$	$2\frac{1}{5}, 3.4767, 2.3434 \dots$
6	$\frac{2}{21} + \frac{4}{35}$	$\frac{22}{105}$
7	Approximate $\frac{5}{7}$ to three decimal places.	$.714$
8	$-\frac{2x^{-3}}{x^5}$	$-\frac{2}{x^8}$
9	$\left(-\frac{3x^3}{y^{-5}}\right)^{-3}$	$-\frac{1}{27x^9y^{15}}$
10	$(3x^2y^{-2})^{-3}(9x^4y^{-5})$	$\frac{y}{3x^2}$
11	$(5x + 2)^2$	$25x^2 + 20x + 4$
12	$\frac{15x^3y^2 - 5xy^2}{-5xy^2}$	$-3x^2 + 1$
13	$(2x - 3)(3x^2 - 4x + 2)$	$6x^3 - 17x^2 + 16x - 6$
14	$(3x^2 - 2x + 5) \div (x - 2)$	$3x + 4$ R 13
15	Factor: $15x^5y^7 - 25x^6y^3$	$5x^5y^3(3y^4 - 5x)$
16	Factor: $3x^2 + 13x - 10$	$(3x - 2)(x + 5)$
17	Factor: $5x^7 - 45x$	$5x(x^3 - 3)(x^3 + 3)$
18	Factor: $27x^3 - 8$	$(3x - 2)(9x^2 + 6x + 4)$
19	Factor: $6x^3 + 4x^2 - 15x - 10$	$(3x + 2)(2x^2 - 5)$
20	$\frac{25x^4 - 2x^2}{5x^2}$	$\frac{25x^2 - 2}{5}$
21	$\frac{25 - x^2}{10x} \cdot \frac{10 + 5x}{x^2 - 3x - 10}$	$-\frac{x + 5}{2x}$
22	$\frac{25x^3}{3x + 12} \div \frac{5x^4}{x^2 + 4x}$	$\frac{5}{3}$
23	$\frac{x}{5} - \frac{3}{x + 7}$	$\frac{x^2 + 7x - 15}{5(x + 7)}$
24	$\frac{2}{5x^4} + \frac{3}{10x^3} + \frac{4}{15x^2}$	$\frac{8x^2 + 9x + 12}{30x^4}$
25	$\frac{x - 1}{x^2 + x} + \frac{3}{x^2}$	$\frac{x^2 + 2x + 3}{x^2(x + 1)}$
26	$\frac{\frac{3}{4x} + 5}{7 - \frac{1}{2x^2}}$	$\frac{20x^2 + 3x}{28x^2 - 2}$
27	$\sqrt[3]{-64}$	-4
28	$\sqrt{36x^{16}y^{10}}$	$6x^8y^5$
30	$(4 + 3\sqrt{2})(3 - 5\sqrt{2})$	$-18 - 11\sqrt{2}$
31	$\frac{\sqrt{3x^5y^3}}{\sqrt{27x^3y}}$	$\frac{xy}{3}$
32	$\sqrt{45} + 2\sqrt{80}$	$11\sqrt{5}$
33	Rationalize the denominator: $\frac{3}{5\sqrt{6}}$	$\frac{\sqrt{6}}{10}$

34	Rationalize the denominator: $\frac{1+\sqrt{2}}{3-\sqrt{2}}$	$\frac{5+4\sqrt{2}}{7}$
35	Evaluate: $27^{-\frac{2}{3}}$	$\frac{1}{9}$
36	$\left(\frac{8}{27}\right)^{-\frac{2}{3}}$	$\frac{9}{4}$