

Math 9 – 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	$\sqrt{36x^{16}y^{10}}$	$6x^8y^5$
29	Simplify: $\sqrt[5]{32x^{20}y^{32}}$	$2x^4y^6\sqrt[5]{y^2}$
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	Solve for x : $5(3 - 2x) + 1 = 4x + 2$	1
36	Solve for x : $3.5x - 7 = 2.5x$	7
37	Solve for x : $\frac{2x}{3} + \frac{x}{7} = \frac{5}{7}$	$\frac{15}{17}$
38	Solve for x : $\frac{3x+2}{5} + 4 = \frac{x+1}{2}$	-39
39	Solve for x : $3x^2 = 27$	3, -3
40	Solve for x : $(2x + 3)^2 = 5$	$-\frac{3}{2} \pm \frac{\sqrt{5}}{2}$
41	Solve for x : $5x^2 + 4x = 0$	$0, -\frac{4}{5}$
42	Solve for x : $x(3x + 1) = 10$	$-2, \frac{5}{3}$
43	Solve for x : $\frac{x+5}{2} = \frac{-6}{x-2}$	-2, -1
44	If $x^2 + 8x = 2$ then $(x + 4)^2 =$	18
45	Solve for x : $2x^2 - x - 11 = 0$	$\frac{1}{4} \pm \frac{\sqrt{89}}{4}$
46	$-5x \geq 10$	$x \leq -2$
47	$-2 < 4 - 2x < 8$	$-2 < x < 3$
48	Find the distance between: $(-3,5)$ and $(2, -4)$	$\sqrt{106}$
49	Find the midpoint between: $(2,7)$ and $(-6,4)$	$(-2, \frac{11}{2})$
50	Find the slope and y-intercept: $5x + 7y = 13$	$-\frac{5}{7}, (0, \frac{13}{7})$
51	Find the equation of the line parallel to $y - 5x = 3$ and through $(2, -7)$.	$y = 5x - 17$
52	Find the equation of the line perpendicular to line $3y + x = 4$ and through $(-1,2)$.	$y = 3x + 5$
53	Find the x and y intercepts of $7x - 5y = 17$.	$(\frac{17}{7}, 0), (0, \frac{17}{-5})$
54	Find the equation of the line that is parallel to the y -axis and goes through point $(5,7)$.	$x = 5$
55	Line $x = 5$ goes through quadrants _____.	I, IV
56	Find the equation of the circle with center $(2, -7)$ and radius 5.	$(x - 2)^2 + (y + 7)^2 = 25$
57	Find the center and the radius of the circle with equation: $x^2 + y^2 + 10x - 6y - 3 = 0$.	$(-5,3), r = \sqrt{37}$
58	Find the x -value of the solution of the system of equations: $5x + 3y = 5$ $7x + 6y = 4$	$x = 2$
59	Find $f(-2)$ where $f(x) = \frac{3-4x}{x-5}$	$\frac{11}{-7}$
60	Find the domain: $f(x) = \frac{x-7}{x^2-25}$	$x \neq 5, -5$
61	Find the domain: $f(x) = \sqrt{2 - 5x}$	$x \leq \frac{2}{5}$

62	Solve for x: $ 2x - 1 = 5$	$x = -2, x = 3$
63	$ 2x - 1 < 5$	$-2 < x < 3$
64	$ 2x - 1 \geq 5$	$x \leq -2$ or $x \geq 3$