

Math 9B Review for final – 1	
1	Evaluate when $x = -1$ and $y = 2$ : $x^3y^2 - xy + 1$
2	Simplify: $\left(\frac{x^5z^0}{y^3x^2}\right)^{-5}$
3	$(2x^3 - 5x + 3) - (x^3 - 5x^2 - 4)$
4	$(2x - 1)(x^2 - 2x + 3)$
5	Find the remainder when $x^3 + 5x - 2$ is divided by $x + 2$
6	Factor: $12a^2b^4c - 6ab^3$
7	Factor: $25x^2y^4 - 16z^6$
8	Factor : $2x^2 + 7x - 15$
9	Factor: $2x^3 - 6x^2 - x + 3$
10	Factor completely: $6a^3 - 24a$
11	Multiply and simplify: $\frac{x}{x^2-4x+4} \cdot \frac{x-2}{x^2(x+5)}$
12	Subtract: $\frac{2}{x-3} - \frac{4}{3-x}$
13	$\frac{3}{x^2+5x} + \frac{2}{(x+3)(x+5)}$
14	Factor: $8z^3 - 1$
15	Simplify: $\frac{\frac{2-\frac{3}{x}}{\frac{7x}{4}}}{1+\frac{7x}{7x}}$
16	Divide: $\frac{\sqrt{18x^7}}{\sqrt{2x^5}}$
17	$3\sqrt{24} - 2\sqrt{54}$
18	$(\sqrt{3} - 5)(\sqrt{3} + 2)$
19	Rationalize denominator: $\frac{2}{\sqrt{5}+3}$
20	Simplify: $\sqrt{50x^7y^5}$

Answers:

1	-1	2	$\frac{y^{15}}{x^{15}}$
3	$x^3 + 5x^2 - 5x + 7$	4	$2x^3 - 5x^2 + 8x - 3$
5	-20	6	$6ab^3(2abc - 1)$
7	$(5xy^2 - 4z^3)(5xy^2 + 4z^3)$	8	$(2x - 3)(x + 5)$
9	$(x - 3)(2x^2 - 1)$	10	$6a(a + 2)(a - 2)$
11	$\frac{1}{x(x - 2)(x + 5)}$	12	$\frac{6}{x - 3}$
13	$\frac{5x + 9}{x(x + 3)(x + 5)}$	14	$(2z - 1)(4z^2 + 2z + 1)$
15	$\frac{11}{7x + 4}$	16	$3x$
17	0	18	$-7 - 3\sqrt{3}$
19	$\frac{\sqrt{5} - 3}{-2}$	20	$5x^3y^2\sqrt{2xy}$