

DIAGNOSTIC TEST Mathematics 8

Name:		Date:	
Grade & Section:		Teacher:	
Directions: Re		se and write the CAPITAL letter of the correct	
1) V	What do we call the mathema	atical process of finding the expressions which when	
	result to the given product?		
a.	exponent	c. graphing	
b.	factoring	d. multiplication	
2) A	rational expression is said to	be undefined if:	
	the numerator is zero.		
b.	the numerator is not zero.		
c.	the denominator is zero.		
	the denominator is not zero.		
3) V	Which is NOT true about perfe	ect square trinomial?	
a.	The first and last terms are		
b.		e product of the square roots of the first and last	
	terms.		
c.	The middle term is the product of the square roots of the first and last terms.		
d.	The last term is a positive number.		
4) V	Which of the following is a dif	ference of two squares?	
	$x^2 + 4$	c. $x^4y^3 - 100$	
b.	$2x^2 - 9$	c. $x^4y^3 - 100$ d. $4x^8y^2 - 49$	
5) V	When $\frac{2x}{x-1}$ and $\frac{2}{1-x}$ are added, the	he sum will be?	
a.	2	c. $\frac{2x-2}{x-1}$ d. $\frac{2x+2}{x-1}$	
b.	2 <i>x</i>	d. $\frac{2x+2}{x-1}$	
6) V	What is the factored form of 2:	$x^2 - 6x - 20$?	
	2(x+5)(x+2)	c. $2(x-5)(x-2)$	
	2(x-5)(x+2)	d. $(2x + 5)(x - 2)$	
7) V	What is the product when you	multiply $\frac{4a^2}{5b}$ and $\frac{5b^2}{12ab}$?	
a.	$\frac{ab}{3b}$	$c.\frac{a}{c}$	
	a a	c. $\frac{a}{3}$ d. $\frac{ab}{3}$	
b.	2h	d2	

8) What is the quotient of $\frac{a^2-6a+8}{b^2}$ and $\frac{a^2-2a}{b}$? 9) What are the factors of $x^3 + 8$? a. $(x+2)(x^2+2x+4)$ b. $(x+2)(x^2-2x+4)$ c. $(x-2)(x^2-2x+4)$ d. $(x-2)(x^2+2x+4)$ 10) What is the product of (7r - 6) and (7r + 6)? a. $49r^2 + 36$ c. $49r^2 - 36$ b. $49r^2 + 84r + 36$ d. $49r^2 + 42r + 36$ 11) Evaluate $(x + 4)^2$? a. $x^2 + 16$ c. $x^2 - 16$ b. $x^2 + 8x + 16$ d. $x^2 + 8x - 16$ 12) Find the factors of $27y^2 + 18y$? c. $9y(3y^2 + 2y)$ a. 9y(3y + 2)d. $3y(9y^2 + 2y)$ b. 3y(9y + 3)13) Factor this polynomial by grouping: 4qr + 8r + 3q + 6? a. (4r+3)(q+2)c. (4qt + 8) + (3q + 6)b. 4r(q+t) + 3(q+2)d. (4r-3)(q+2)14) What is the pattern for a cube of a binomial? c. $a^3 + 3a^2b + 3ab + b^3$ a. $a^3 + 3ab + 3ba + b^3$ b. $a^3 + 3a^2b^2 + 3ab + b^3$ d. $a^3 + 3a^2b + 3ab^2 + b^3$ 15) Special products are known for its a. variables c. exponents b. patterns d. products 16) What is the unit used in finding the volume of a cube? a. unit c. square unit b. cubic unit d. area 17) Which of the following is a perfect square and at the same time a perfect cube? a. 0 c. 1 d. 178 18) What is the middle operator in the product of the sum and difference of two binomials? a. addition c. subtraction b. multiplication d. division 19) What is the area of a rectangle whose length is (9x + 10) cm. and width is (9x - 10)cm.? c. $81x^2 + 20cm^2$ a. $81x^2 - 100cm$ b. $18x^2 - 180cm^3$ d. $81x^2 - 100cm^2$



20) Which of the following is NOT an	example of a perfect cube?
	a. 216	c. 625
t	b. 5832	d. 729
21) What method should you use to fa	ctor the polynomial $x^2 - 36$?
	a. Factoring by Grouping	c. Common Monomial Factor
t	Difference of Two Squares	d. Factoring Perfect Square Trinomials
22	2) Factor this polynomial completely	$4x^2 - 20x + 25$?
а	a. $(4x-25)(x-1)$	c. $(2x+5)(2x-5)$
t	$(2x-5)^2$	d. $(4x-5)(x-5)$
23	3) Factor this polynomial completely	
a	a. $(x^3 - 200)(x^3 + 200)$	c. $(x^2 + 20)(x^2 + 20)$
t	(x-20)(x+20)	d. $(x^3 - 20)(x^3 + 20)$
24	Factor this polynomial completely	$3x^2 + 11x - 20$?
а	a. $(3x+4)(x-5)$	c. $(3x-4)(x+5)$
t	(3x - 5)(x + 4)	d. $(3x+5)(x-4)$
25	5) Factor this polynomial completely	
a	a. $(x-1)(5x+8)$	c. $(x+1)(5x-8)$
t	(5x-1)(x+8)	d. $(5x+1)(x-1)$
26		or the this polynomial: $4b^5 + 4b^3 + 16b^2$.
	a. $4b^3(b^4+b^2+4b)$	c. $4b^3(b^4+4b+5)$
ŀ	$6. 4(b^5 + b^3 + 4b^2)$	d. $4b^2(b^3+b+4)$
27	7) Which expression is the factored for	orm of $2x^2 - 2x - 12$.
	a. $2(x+2)(x-3)$	c. $2(x+6)(x-1)$
t	b. $2(x+3)(x-2)$	d. $2(x+1)(x-6)$
28	3) A rectangle's area is $(4x^2 + 19x + 1)$	2) and its length is $(x + 4)$. What is the width?
a	a. $4x - 3$	c. $2x + 6$
t	b. $4x + 3$	d. $2x + 3$
29) Which of the following are the fac	tors of $6x^2 + 17x + 5$?
a	a. $(2x+1)(3x+5)$	c. $(3x+1)(2x+5)$
t	(x+3)(5x+2)	d. $(3x+1)(2x-5)$
30) Which of the following polynomia	
a	$x^3 - 3$	c. $x^2 - 2x + 2$
t	$45x^2$	d. $7x^3 - x^2 + 9x - 3$