

Factor wksht #3

Name \_\_\_\_\_

Factor completely

1.  $x^2 - 64$   
 $(x+8)(x-8)$
2.  $25x^2 - 9$   
 $(5x+3)(5x-3)$
3.  $100x^2 - y^2$   
 $(10x+y)(10x-y)$
4.  $x^2 - 49$   
 $(x+7)(x-7)$
5.  $81x^2 - 16y^2$   
 $(9x+4y)(9x-4y)$
6.  $x^2 - 4$   
 $(x+2)(x-2)$
7.  $x^2 - 144$   
 $(x+12)(x-12)$
8.  $16x^2 - 25$   
 $(4x+5)(4x-5)$
9.  $121x^2 - 49y^2$   
 $(11x+7y)(11x-7y)$

10.  $81x^2 - 225y^2$   
 $9(9x^2 - 25y^2)$   
 $9(3x+5y)(3x-5y)$
11.  $y^4 - 16$   
 $(y^2+4)(y^2-4)$   
 $(y^2+4)(y+2)(y-2)$
12.  $36x^2 - 49y^2$   
 $(6x+7y)(6x-7y)$
13.  $3x^3 + 9x^2 + 2x + 6$   
 $(3x^2+2)(x+3)$   

$3x^2$	$x$	$3$
$3x^3$	$9x^2$	
$2$	$2x$	$6$
14.  $3a^2 - 6ac + 5ac - 10c^2$   
 $(a-2c)(3a+5c)$   

$a$	$-2c$
$3a$	$3a^2 - 6ac$
$5c$	$5ac - 10c^2$
15.  $3ac + a - 9c - 3$   
 $(a-3)(3c+1)$   

$3c$	$1$
$a$	$3ac$
$-3$	$-9c - 3$
16.  $2x^3 - 4x^2 + 6x - 12$   
 $2(x^3 - 2x^2 + 3x - 6)$   
 $2(x^2+3)(x-2)$   

$x^2$	$x$	$-2$
$x^3$	$-2x^2$	
$3$	$3x$	$-6$
17.  $2x^2 + 18x + 28$   
 $2(x^2+9x+14)$   
 $2(x+7)(x+2)$   
 $\frac{14}{9}$

18.  $3x^2 - 21x + 30$   
 $3(x^2 - 7x + 10)$   
 $3(x-2)(x-5)$   
 $\frac{10}{-5 \times -7}$
19.  $12x^2 + 20x + 8$   
 $4(3x^2 + 5x + 2)$   
 $4(x+1)(3x+2)$   
 $\frac{6}{5}$   

$3x$	$2$
$3x^2$	$2x$
20.  $10x^2 - 45x + 50$   
 $5(2x^2 - 9x + 10)$   
 $5(x-2)(2x-5)$   
 $\frac{20}{-4 \times -5}$   
 $x-2$   

$2x$	$2x^2 - 4x$
$-5$	$-5x + 10$
21.  $4y^3 - 36y^2 - 144y$   
 $4y(y^2 - 9y - 36)$   
 $4y(y-12)(y+3)$   
 $\frac{-36}{-12 \times 3}$
22.  $8x^3 - 50x$   
 $2x(4x^2 - 25)$   
 $2x(2x+5)(2x-5)$
23.  $4x^2 + 4x - 24$   
 $4(x^2 + x - 6)$   
 $4(x+3)(x-2)$   
 $\frac{-6}{1 \times -6}$
24.  $7x^2 - 21x - 280$   
 $7(x^2 - 3x - 40)$   
 $7(x-8)(x+5)$
25.  $5x^2 + 30x + 40$   
 $5(x^2 + 6x + 8)$   
 $5(x+4)(x+2)$