

## Factoring Test Review

Factor the common factor out of each expression.

1)  $36n^2 - 16n - 16$

$4(9n^2 - 4n - 4)$

2)  $45y^2 - 9y^2x^2 + 81y^4x^3$

$9y^2(5 - x^2 + 9x^3y^2)$

3)  $-18xy - 12x$

$-6x(3y + 2)$

4)  $-3m^2n^2 + 15mn$

$3mn(-mn + 5)$

Factor each completely.

5)  $18k^3 + 15k^2 + 48k + 40$

$(3k^2 + 8)(6k + 5)$

6)  $6a^3 + 30a^2 - 48a - 240$

$6(a^2 - 8)(a + 5)$

7)  $175m^4 - 35m^3 + 245m^2 - 49m$

$7m(5m^2 + 7)(5m - 1)$

8)  $224x^4 + 56x^3 + 140x^2 + 35x$

$7x(8x^2 + 5)(4x + 1)$

9)  $m^2 + 4m - 12$

$(m + 6)(m - 2)$

10)  $x^2 - 2x$

$x(x - 2)$

$$11) -m^2 - 4m + 12$$

$$-(m-2)(m+6)$$

$$12) 2x^2 - 4x - 48$$

$$2(x-6)(x+4)$$

$$13) 5p^2 + 24p - 36$$

$$(5p-6)(p+6)$$

$$14) 7x^2 - 3x - 9$$

Not Factorable

$$15) 3x^2 + 2x$$

$$x(3x+2)$$

$$16) -2p^2 + p + 10$$

$$-(2p-5)(p+2)$$

$$17) 10x^2 + 13x + 10$$

Not Factorable

$$18) -6x^2 - 25x - 24$$

$$-(2x+3)(3x+8)$$

$$19) 45v^2 + 130v - 200$$

$$5(v+4)(9v-10)$$

$$20) 10p^2 - 45p$$

$$5p(2p-9)$$

Algebra 1

Factor each completely.

1)  $16x^2 - 25$

$$(4x+5)(4x-5)$$

2)  $25p^2 - 4$

$$(5p+2)(5p-2)$$

3)  $25x^2 - 1$

$$(5x+1)(5x-1)$$

4)  $9p^2 - 25$

$$(3p+5)(3p-5)$$

5)  $16p^2 - 1$

$$(4p+1)(4p-1)$$

6)  $x^2 - 9$

$$(x+3)(x-3)$$

7)  $x^2 - 9$

$$(x+3)(x-3)$$

8)  $b^2 - 4$

$$(b+2)(b-2)$$

9)  $16k^2 - 40k + 25$

$$(4k-5)^2$$

10)  $4n^2 + 1$

~~Not~~ Not Factorable

11)  $k^2 + 25$

Not Factorable

12)  $4x^2 - 9$

$$(2x+3)(2x-3)$$

13)  $a^2 - 9b^2$

$$(a+3b)(a-3b)$$

14)  $16a^2 + 24ab + 9b^2$

$$(4a+3b)^2$$

15)  $9a^2 - 24ab + 16b^2$

$$(3a-4b)^2$$

16)  $x^2 + 2xy + y^2$

$$(x+y)^2$$

$$17) 7x^3 - 56x^2 - 4x + 32$$

$$(7x^2 - 4)(x - 8)$$

$$19) 6k^4 + 18k^3 + 16k^2 + 48k$$

$$2k(3k^2 + 8)(k + 3)$$

$$21) 4r^2 - 4r - 360$$

$$4(r - 10)(r + 9)$$

$$23) 2k^2 - 17k + 35$$

$$(2k - 7)(k - 5)$$

$$25) 9a^2 - 56a + 12$$

$$(a - 6)(9a - 2)$$

$$27) -4k^2 - 36k$$

$$-4k(k + 9)$$

$$29) 7n^2 - 38n + 40$$

$$(7n - 10)(n - 4)$$

$$31) 27b^2 - 27b - 120$$

$$3(3b + 5)(3b - 8)$$

$$18) 252p^5 + 210p^4 + 216p^3 + 180p^2$$

$$6p^2(7p^2 + 6)(6p + 5)$$

$$20) 49r^3 - 21r^2 + 42r - 18$$

$$(7r^2 + 6)(7r - 3)$$

$$22) -4a^2 - 16a - 12$$

$$-4(a + 1)(a + 3)$$

$$24) 5r^2 + 33r + 18$$

$$(5r + 3)(r + 6)$$

$$26) 45n^2 - 355n - 450$$

$$5(n - 9)(9n + 10)$$

$$28) -5b^2 - 60b - 100$$

$$-5(b + 2)(b + 10)$$

$$30) 2v^2 + 27v + 70$$

$$(2v + 7)(v + 10)$$

$$32) -8p^2 + 28p$$

$$-4p(2p - 7)$$