Name:_____ Date:_____

8A; Algebra 1 Period_____

Extra Review for Factoring

1) What are the factors of: $2x^2 - 13x + 15$? a) $(2x - 5)(x - 3)$ b) $(2x - 15)(x - 1)$ c) $(2x - 3)(x - 5)$ d) $(2x - 1)(x - 15)$	2) Factor: $y^2 - 25$ a) $(y + 5)(y + 5)$ b) $(5 - y)(5 + y)$ c) $(y - 5)^2$ d) $(y + 5)(y - 5)$
3) Factor: $81 - 4x^2$	4) Factor: $6x^3 + 21x$
5) Factor: $30y + 15y^3$	6) Factor: $-12t^2v^2 - 20tv$
7) Expressed in factored form, the binomial $4a^2 - 9b^2$ is equivalent to a) $(4a - 3b)(a + 3b)$ b) $(2a + 3b)(2a - 3b)$ c) $(2a - 3b)(2a - 3b)$ d) $(2a - 9b)(2a + b)$	8) What are the factors of $x^2 + 7x + 12$? a) $(x + 7)(x + 5)$ b) $(x + 12)(x + 1)$ c) $(x + 2)(x + 6)$ d) $(x + 4)(x + 3)$
9) Which of the following represents $9x^2 + 36x + 36$ after is has been factored completely? a) $(9x + 18)(x + 2)$ b) $3(3x + 2)(x + 6)$ c) $9(x + 2)^2$ d) $9(x2 + 4x + 4)$	10) Factor completely: $3x^2 + 15x - 42$

11) Express $x^2 - 16$ as the product of two binomial factors	12) Factor: $x^2 - x - 6$
13) What are the factors of $x^2 + 5x - 24$ a) $(x - 1)(x + 24)$ b) $(x - 3)(x + 8)$ c) $(x - 4)(x + 6)$ d) $(x - 2)(x + 12)$	14) What expression is equivalent to $x^2 + 7x + 6$? a) $(x + 6)(x + 1)$ b) $(x + 1)(x + 7)$ c) $x(x + 7)$ d) $(x + 3)(x + 2)$
15) Factor: $15p^2q + 10pq^2$	16) Factor: $2x^2 - 5x + 2$
17) Express $4x^2 - 81$ as the product of two binomial factors.	18) Factor: $6x^2 - 13x - 5$
19) Factor: $10x^2 - 11x + 3$	20) Factor: $4a^2 - b^2$
21) Express $x^2 + 2x - 15$ as the product of two binomials.	22) Written in factored form, the trinomial $3x^2 + 5x - 2$ is equivalent to a) $(3x - 1)(x + 2)$ b) $(3x + 1)(x - 2)$ c) $(3x - 2)(x + 1)$ d) $(3x + 2)(x - 1)$

23) Factor: $2x^3 + 6x^2 - 10x$	24) Factor: $2p^2 - 6p$
25) Express $2x^2 - 3x - 5$ as the product of two binomial factors.	26) Factor: $9x^2 - 16$
27) Express $x^2 - 5x - 14$ as a product of two binomials.	28) Factor: $16y^2 - 9$
29) Factor: $35x^3 - 28x$	30) Factor: a) $6x + 27b$ b) $m^2 - 81$
31) Factor: a) $3y^2 + 10y$ b) $x^2 - 16h^2$	32) Factor: $x^2 - 4x - 5$
33) Factor: $y^2 - 9y + 14$	34) Factor: $16y^2 - 16$ (Completely)
35) Factor completely: $3x^3 - 6x^2 - 24x$	36) Factor: $60a^2 + 37a - 6$
37)) Which of the following is a factor of $c^2 - 7c + 10$? a) $(c + 2)$ b) $(c - 5)$ c) $(c - 3)$ d) $(c + 5)$	38) If $9x^2 + 30x + 25$ represents the square of a number, find the binomial that represents the number.

Name: Key

8A; Algebra 1

Date:_____

Period_____

Extra Review for Factoring

Tricky Tri

1) What are the factors of: $2x^2 - 13x + 15$? (M +30, A −13)

a) $(2x - 5)(x - 3)$

b) $(2x - 15)(x - 1)$

c) $(2x - 3)(x - 5)$

d) $(2x - 1)(x - 15)$

$\left(\frac{2x}{2} - \frac{10}{2}\right)(2x - 3)$

$(x - 5)(2x - 3)$

DOPS

2) Factor: $y^2 - 25$

$(y + 5)(y - 5)$

a) $(y + 5)(y + 5)$

b) $(5 - y)(5 + y)$

c) $(y - 5)^2$

d) $(y + 5)(y - 5)$

DOPS

3) Factor: $81 - 4x^2$

$\boxed{(9 + 2x)(9 - 2x)}$

GCMF

4) Factor: $6x^3 + 21x$

$\boxed{3x(2x^2 + 7)}$

GCMF

5) Factor: $30y + 15y^3$

$\boxed{15y(2 + y^2)}$

GCMF

6) Factor: $-12t^2v^2 - 20tv$

$\boxed{-4tv(3tv + 5)}$

Can factor out the negative since they are both Negative

DOPS

7) Expressed in factored form, the binomial $4a^2 - 9b^2$ is equivalent to

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

b) $(2a + 3b)(2a - 3b)$

c) $(2a - 3b)(2a - 3b)$

d) $(2a - 9b)(2a + b)$

$(2a + 3b)(2a - 3b)$

Tri

8) What are the factors of $x^2 + 7x + 12$? (M, A, M)

a) $(x + 7)(x + 5)$

b) $(x + 12)(x + 1)$

~~c) $(x + 2)(x + 6)$~~

d) $(x + 4)(x + 3)$

$(x + 4)(x + 3)$

9) Which of the following represents $9x^2 + 36x + 36$ after is has been factored completely?

a) $(9x + 18)(x + 2)$

b) $3(3x + 2)(x + 6)$

c) $9(x + 2)^2$

d) $9(x2 + 4x + 4)$

1) GCMF
2) Trinomial

$9x^2 + 36x + 36$

$9(x^2 + 4x + 4) \rightarrow$ GCMF

$9(x + 2)(x + 2) \rightarrow$ Tri

CA

$9(x + 2)^2$

10) Factor completely: $3x^2 + 15x - 42$

1) GCMF
2) Trinomial

$3(x^2 + 5x - 14)$ (M, A, M)

$\boxed{3(x + 7)(x - 2)}$

DOPS

11) Express $x^2 - 16$ as the product of two binomial factors

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

Tri m A m

12) Factor: $x^2 - x - 6$

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

Tri m A m

13) What are the factors of $x^2 + 5x - 24$

a) $(x - 1)(x + 24)$

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

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

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

d) $(x - 2)(x + 12)$

Tri m A m

14) What expression is equivalent to $x^2 + 7x + 6$?

a) $(x + 6)(x + 1)$

$(x+6)(x+1)$

b) $(x + 1)(x + 7)$

c) $x(x + 7)$

d) $(x + 3)(x + 2)$

GCMF

15) Factor: $15p^2q + 10pq^2$

$5pq(3p + 2q)$

Tricky Tri

4 m

16) Factor: $2x^2 - 5x + 2$

$\left(\frac{2x}{2} - \frac{4}{2}\right)(2x - 1)$

$(x-2)(2x-1)$

DOPS

17) Express $4x^2 - 81$ as the product of two binomial factors.

$(2x+9)(2x-9)$

Tricky Tri

-30

18) Factor: $6x^2 - 13x - 5$

$\left(\frac{6x}{3} - \frac{15}{3}\right)\left(\frac{6x}{2} + \frac{2}{2}\right)$

$(2x-5)(3x+1)$

Tricky Tri

-30

19) Factor: $10x^2 - 11x + 3$

$\left(\frac{10x}{2} - \frac{6}{2}\right)\left(\frac{10x}{5} - \frac{5}{5}\right)$

$(5x-3)(2x-1)$

DOPS

20) Factor: $4a^2 - b^2$

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

Tri m A m

21) Express $x^2 + 2x - 15$ as the product of two binomials.

$(x+5)(x-3)$

Tricky Tri

-6

22) Written in factored form, the trinomial $3x^2 + 5x - 2$ is equivalent to

a) $(3x - 1)(x + 2)$

$3x^2 + 5x - 2$

b) $(3x + 1)(x - 2)$

$\left(\frac{3x}{3} + \frac{6}{3}\right)(3x - 1)$

c) $(3x - 2)(x + 1)$

d) $(3x + 2)(x - 1)$

$(x+2)(3x-1)$

GCMF

23) Factor: $2x^3 + 6x^2 - 10x$

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

GCMF

24) Factor: $2p^2 - 6p$

$2p(p - 3)$

Tricky Tri

25) Express $2x^2 - 3x - 5$ as the product of two binomial factors.

-10

$(2x - 5)(2x + 2)$

$(2x - 5)(x + 1)$

DOPS

26) Factor: $9x^2 - 16$

$(3x + 4)(3x - 4)$

Tri

27) Express $x^2 - 5x - 14$ as a product of two binomials.

$(x - 7)(x + 2)$

DOPS

28) Factor: $16y^2 - 9$

$(4y - 3)(4y + 3)$

GCMF

29) Factor: $35x^3 - 28x$

$7x(5x^2 - 4)$

GCMF

30) Factor: a) $6x + 27b$ b) $m^2 - 81$

a) $3(2x + 9b)$ b) $(m + 9)(m - 9)$

GCMF

31) Factor: a) $3y^2 + 10y$

a) $y(3y + 10)$

DOPS

b) $x^2 - 16h^2$

b) $(x + 4h)(x - 4h)$

Tri

32) Factor: $x^2 - 4x - 5$

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

Tri

33) Factor: $y^2 - 9y + 14$

$(y - 7)(y - 2)$

GCMF + DOPS

34) Factor: $16y^2 - 16$

(completely)

GCMF $16(y^2 - 1)$

DOPS $16(y + 1)(y - 1)$

☆ Keep going until it is in simplest factored form

35) Factor completely: $3x^3 - 6x^2 - 24x$

GCMF $3x(x^2 - 2x - 8)$

Tri $3x(x - 4)(x + 2)$

Tricky Tri

36) Factor: $60a^2 + 37a - 6$

-360

$(60a + 45)(60a - 8)$

$15 \quad 15 \quad 4 \quad 4$

$(4a + 3)(15a - 2)$

37)) Which of the following is a factor of $c^2 - 7c + 10$?

$(c - 5)(c - 2)$

a) $(c + 2)$ b) $(c - 5)$

c) $(c - 3)$ d) $(c + 5)$

Tricky

38) If $9x^2 + 30x + 25$ represents the square of a number, find the binomial that represents the number.

225

$(9x + 15)(9x + 15)$

$3 \quad 3 \quad 3 \quad 3$

$(3x + 5)(3x + 5)$ or $(3x + 5)^2$

$(3x + 5)$ ← No ² just binomial