

Name: _____

8A; Algebra 1

Date: _____

Period _____

Extra Review for Factoring

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

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

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.

Extra Review for Factoring

<p>Tricky Tri 1) What are the factors of: $2x^2 - 13x + 15$ ^{30m}</p> <p>a) $(2x - 5)(x - 3)$ $\left(\frac{2x-10}{2}\right)\left(\frac{2x-3}{2}\right)$</p> <p>b) $(2x - 15)(x - 1)$ $(x-5)(2x-3)$</p> <p>c) $(2x - 3)(x - 5)$</p> <p>d) $(2x - 1)(x - 15)$</p>	<p>DOPS 2) Factor: $y^2 - 25$ $(y+5)(y-5)$</p> <p>a) $(y+5)(y+5)$</p> <p>b) $(5-y)(5+y)$</p> <p>c) $(y-5)^2$</p> <p>d) $(y+5)(y-5)$</p>
<p>DOPS 3) Factor: $81 - 4x^2$</p> <p>$(9+2x)(9-2x)$</p>	<p>GCMF 4) Factor: $6x^3 + 21x$</p> <p>$3x(2x^2 + 7)$</p>
<p>GCMF 5) Factor: $30y + 15y^3$</p> <p>$15y(2 + y^2)$</p>	<p>GCMF 6) Factor: $-12t^2v^2 - 20tv$</p> <p>$-4tv(3tv + 5)$</p> <p>Can factor at the negative since they are both negative</p>
<p>DOPS 7) Expressed in factored form, the binomial $4a^2 - 9b^2$ is equivalent to</p> <p>a) $(4a - 3b)(a + 3b)$ $(2a+3b)(2a-3b)$</p> <p>b) $(2a + 3b)(2a - 3b)$</p> <p>c) $(2a - 3b)(2a - 3b)$</p> <p>d) $(2a - 9b)(2a + b)$</p>	<p>Tri 8) What are the factors of $x^2 + 7x + 12$?</p> <p>a) $(x + 7)(x + 5)$ $(x+4)(x+3)$</p> <p>b) $(x + 12)(x + 1)$</p> <p>c) $(x + 2)(x + 6)$</p> <p>d) $(x + 4)(x + 3)$</p>
<p>9) Which of the following represents $9x^2 + 36x + 36$ after it has been <u>factored completely</u>?</p> <p>a) $(9x + 18)(x + 2)$ ^{DGCMF}</p> <p>b) $3(3x + 2)(x + 6)$ ^{2) Trinomial}</p> <p>c) $9(x + 2)^2$ $9x^2 + 36x + 36$ $9(x^2 + 4x + 4) \rightarrow$ GCMF $9(x + 2)(x + 2) \rightarrow$ Tri</p> <p>d) $9(x^2 + 4x + 4)$ ^{ca}</p> <p>$9(x+2)^2$</p>	<p>10) Factor <u>completely</u>: $3x^2 + 15x - 42$</p> <p>1) GCMF $3(x^2 + 5x - 14)$</p> <p>2) Trinomial: $3(x + 7)(x - 2)$</p>

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

^{DUPS}
 $(x+4)(x-4)$

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

^{Tri m A m}
 $(x-3)(x+2)$

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

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

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

^{GCMF}
 $5pq(3p+2q)$

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

^{Tricky Tri}
 $(\frac{2x-4}{2})(\frac{2x-1}{2})$
 $(x-2)(2x-1)$

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

^{DUPS}
 $(2x+9)(2x-9)$

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

^{Tricky Tri}
 $(\frac{6x-15}{3})(\frac{6x+2}{2})$
 $(2x-5)(3x+1)$

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

^{Tricky Tri}
 $(\frac{10x-6}{2})(\frac{10x-5}{3})$
 $(5x-3)(2x-1)$

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

^{DUPS}
 $(2a+b)(2a-b)$

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

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

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

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

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

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

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

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

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

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

GCMP
23) Factor: $2x^3 + 6x^2 - 10x$
 $2x(x^2 + 3x - 5)$

GCMP
24) Factor: $2p^2 - 6p$
 $2p(p - 3)$

Tricky Tri^m A-10²
25) Express $2x^2 - 3x - 5$ as the product of two binomial factors.
 $(2x - 5)(x + 1)$

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: $16y^2 - 9$
 $(4y - 3)(4y + 3)$

GCMP
29) Factor: $35x^3 - 28x$
 $7x(5x^2 - 4)$

GCMP DOPS
30) Factor: a) $6x + 27b$ b) $m^2 - 81$
a) $3(2x + 9b)$ b) $(m + 9)(m - 9)$

GCMP DOPS
31) Factor: a) $3y^2 + 10y$ b) $x^2 - 16h^2$
a) $y(3y + 10)$ b) $(x + 4h)(x - 4h)$

Tri.
32) Factor: $x^2 - 4x - 5$
 $(x - 5)(x + 1)$

Tri.
33) Factor: $y^2 - 9y + 14$
 $(y - 7)(y - 2)$

GCMP + DOPS
34) Factor: $16y^2 - 16$
GCMP: $16(y^2 - 1)$
DOPS: $16(y + 1)(y - 1)$
★ Keep going until it is in simplest factored form

35) Factor completely: $3x^3 - 6x^2 - 24x$
GCMP: $3x(x^2 - 2x - 8)$
Tri: $3x(x - 4)(x + 2)$

Tricky Tri A-360
36) Factor: $60a^2 + 37a - 6$
 $(60a + 45)(60a - 8)$
 $(4a + 3)(15a - 2)$

37) Which of the following is a factor of $c^2 - 7c + 10$?
a) $(c + 2)$ b) $(c - 5)$ c) $(c - 3)$ d) $(c + 5)$
 $(c - 5)(c - 2)$

Tricky Tri A-225
38) If $9x^2 + 30x + 25$ represents the square of a number, find the binomial that represents the number.
 $(\frac{9x + 15}{3})(\frac{9x + 15}{3})$
 $(3x + 5)(3x + 5)$ or $(3x + 5)^2$

$(3x + 5)$ ← No² just binomial