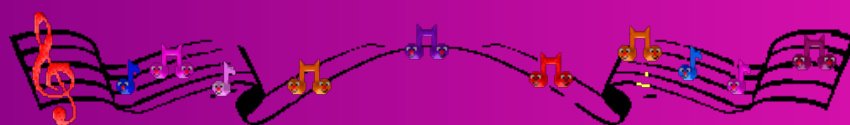
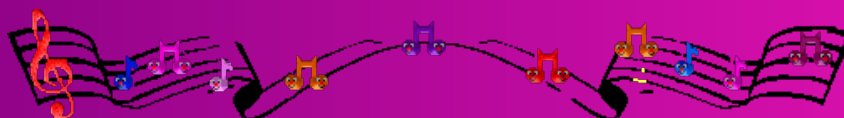


Test Friday

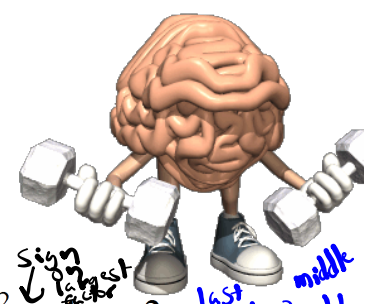


# Factoring Song



- 1) GCF  
 2) Simple Trinomial  
 3) Hard Tri  
 4) Difference Squares  
 5) Perfect Sq Trinomial

# Warm Up



1)  $20 - 32a + 40a^3$   
 4  $(5 - 8a + 10a^3)$

2)  $x^2 + 4x + 3$   
 Sign largest factor  
 last mult / add  
 +3 +4  
 Same signs oh factors  
 $(x+1)(x+3)$

3)  $10n^2 - n - 24$   
 larger factor is 10  
 factors diff  
 1st x last mult add  
 -240 -1  
 $= 10n^2 + 15n - 16n - 24$   
 $= 5n(2n+3) - 8(2n+3)$   
 $= (2n+3)(5n-8)$   
 5)  $49x^4 - 4$   
 Difference of Squares  
 $= (7x^2+2)(7x^2-2)$   
 +1x-240  
 +2x-120  
 +3x-80  
 +4x-60  
 +5x-48  
 +6x-40  
 +8x-30  
 +10x-24  
 +12x-20  
 +15x-16

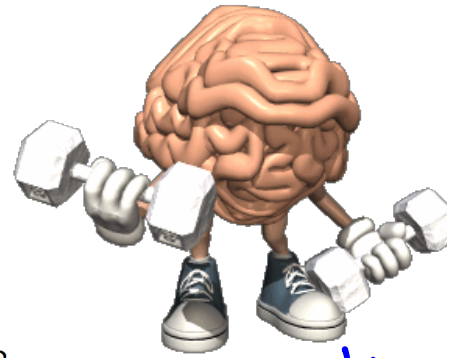
4)  $5x^2 - 45x + 70$  factor completely  
 $= 5(x^2 - 9x + 14)$   
 $= 5(x-7)(x-2)$   
 GCF and Simple trinomial

6)  $x^2 + 100$   
 Not a difference so can't be factored

7)  $49x^2 - 70x + 25$   
 $(7x - 5)^2$  perfect square trinomial

\* on test as multiple choice  
 8)  $9m^2 + 36m + 36$   
 $(3m)^2$   $(6)^2$   
 Perfect Square trinomial  
 middle rule  
 $2ab$   
 $2(3m)(6)$   
 $36m$

- 1
- 1) GCF
  - 2) Simple Trinomial
  - 3) Hard Tri
  - 4) Difference Square
  - 5) Perfect Sq. Trinomial
- # Warm Up



$$1) 20 - 32a + 40a^3$$

$$40a^3 - 32a + 20$$

$$4 (10a^3 - 8a + 5)$$

$$2) x^2 + 4x + 3$$

$x$	$+$	$3$
$(x+1)$	$(x+3)$	

$$3) 10n^2 - n - 24$$

$x$	$+$	$-240$
$1, 240$	$-1$	
$2, 120$		
$3, 80$		
$4, 60$		
$5, 48$		
$6, 40$		
$8, 30$		
$10, 24$		
$12, 20$		
$15, 16$		

$$10n^2 + 15n - 16n - 24$$

$$5n(2n+3) - 8(2n+3)$$

$$(2n+3)(5n-8)$$

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

$$49x^4 - 4$$

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

$$4) 5x^2 - 45x + 70$$

$$5 (x^2 - 9x + 14)$$

$x$	$+$	$+14$
$(x-2)$	$(x-7)$	

$$6) x^2 + 100$$

DNF

$$7) 49x^2 - 70x + 25$$

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

$$8) 9m^2 + \boxed{36}m + 36$$

$$(3m)^2 \quad \downarrow \quad (6)^2$$

$$2(3)(6)m$$

Any homework Questions???

## Difference of Squares and Perfect Square Trinomials

Answers to Factoring: Difference of Squares and Perfect Squares (ID: 1)

- |                   |                     |                   |                   |
|-------------------|---------------------|-------------------|-------------------|
| 1) $(n+3)(n-3)$   | 2) $(5a+3)(5a-3)$   | 3) $(k+2)(k-2)$   | 4) $(4x+3)(4x-3)$ |
| 5) $(x+5)(x-5)$   | 6) $(5x+4y)(5x-4y)$ | 7) $(u+4v)(u-4v)$ | 8) $(u+3v)(u-3v)$ |
| 9) $(2x+y)(2x-y)$ | 10) $(a+5b)(a-5b)$  | 11) $(3m+2)^2$    | 12) $(4r+1)^2$    |
| 13) $(5x-2)^2$    | 14) $(4n+5)^2$      | 15) $(3b-4)^2$    | 16) $(4m-3n)^2$   |
| 17) $(3x-y)^2$    | 18) $(5x+y)^2$      | 19) $(x-4y)^2$    | 20) $(3x+4y)^2$   |

1) GCF  
2) Simple trinomial

## Factoring Review Sheet

3) Hard trinomial

4) Perfect Square trinomial

5) difference of squares

$$(x^2 - b^2) = (x - b)(x + b)$$

1)  $m^2 - m - 72$

2)  $n^2 - 14n + 48$

3)  $-36n^4 + 20n^6 - 28n^8$

4)  $-10n^2m^2 - 30mn^2 + 10n^2$

5)  $4v^2 + 12v + 3$

6)  $4n^2 - 20n + 25$

7)  $3n^2 - 22n + 36$

8)  $14m^2 - 2m - 16$

9)  $16x^2 - 9$

10)  $x^2 - 4$

11)  $4x^2 + 4x + 1$

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

13)  $12n^2 - 72n$

14)  $16b^2 - 28b - 8$

## Solutions

1)  $(m+8)(m-9)$

2)  $(n-6)(n-8)$

3)  $-4n^4(9-5n^2+7n^4)$

4)  $-10n(nm^2+3m^2-n)$

5)  $(2v+3)^2$

6)  $(2n-5)^2$

7)  $(n-5)(3n-7)$

8)  $2(m+1)(7m-8)$

9)  $(4x-3)(4x-3)$

10)  $(x-2)(x+2)$

11)  $(2x-1)^2$

12)  $(3n-2)^2$

13)  $12n(n-6)$

14)  $4(b-2)(4b+1)$

## Attachments

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Factoring TEST Review Worksheet (A Mix of Simple Hard & Special).pdf