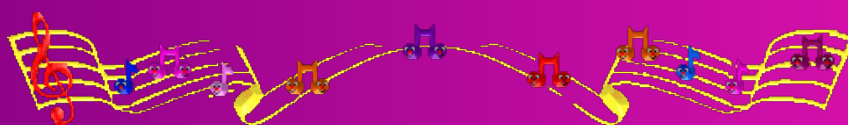
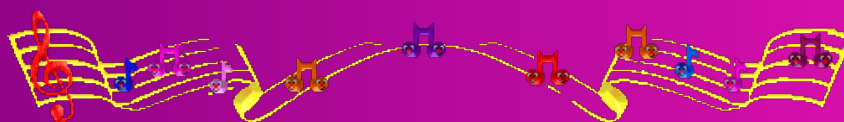


Test Tuesday April 9



# Factoring Song



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



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

2)  $x^2 + 4x + 3$   
 $(x+1)(x+3)$

$\begin{array}{l} \text{mult} \quad \text{add} \\ +3 \quad \quad +4 \\ \hline +1x+3 \end{array}$

3)  $10n^2 - 16n - 24$

$\begin{array}{l} \text{mult} \quad \text{add} \\ -240 \quad -1 \\ \hline 15x-16 \end{array}$

$\begin{array}{l} 10n^2 - 16n + 5n - 24 \\ 2n(5n-8) + 3(5n-8) \\ \hline (5n-8)(2n+3) \end{array}$

4)  $5x^2 - 45x + 70$   
 $5(x^2 - 9x + 14)$

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

$\begin{array}{l} \text{mult} \quad \text{add} \\ +14 \quad \quad -9 \\ \hline -1x-14 \\ \hline -2x-7 \end{array}$

5)  $49x^4 - 4$   
 $(7x^2 - 2)(7x^2 + 2)$

6)  $x^2 + 100$

$\begin{array}{l} \text{Simple} \\ +14 \quad \quad -9 \\ \hline -1x-14 \\ \hline -2x-7 \end{array}$

not difference of square (not subtract)

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

Perfect square trinomial

8)  $9m^2 + 36m + 36$

$\begin{array}{ccc} \downarrow & & \downarrow \\ (a)^2 & & (b)^2 \\ 3^2 & & 6^2 \\ & 2ab & \end{array}$

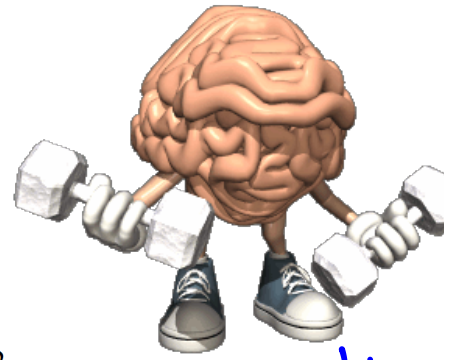
Make a perfect square trinomial

$$25m^2 - 70m + 49$$

Handwritten annotations in red ink:

- A downward arrow from  $25m^2$  points to  $5^2$ .
- A downward arrow from the boxed  $70$  points to  $2(5)(7)$ ,  $2(35)$ , and  $70$ .
- A downward arrow from  $49$  points to  $7^2$ .

- 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)  $x^2 + 4x + 3$   $\frac{x}{+3} \mid \frac{+}{+14}$   
 $(x+1)(x+3)$

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

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

$10n^2 + 15n - 16n - 24$   
 $5n(2n+3) - 8(2n+3)$   
 $(2n+3)(5n-8)$

5)  $(7x^2)^2 - (2)^2$   
 $49x^4 - 4$   
 $(7x^2 - 2)(7x^2 + 2)$

4)  $5x^2 - 45x + 70$   
 $5(x^2 - 9x + 14)$   $\frac{x}{+14} \mid \frac{+}{-7}$   
 $5(x-2)(x-7)$   $-2, 7$

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

3) Hard Trinomial

4) Perfect Square Trinomials

5) Difference of Squares

## Factoring Review Sheet

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)  $4v^2 + 12v + 36$

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

$$4(v^2 + 3v + 9)$$

Does not factor

7)  $3n^2 - 22n + 35$

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)  $-10n(m^2+3m+1)$

5)  $4(v^2+3v+9)$

6)  $(2n-5)^4$

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