

DO NOW

Factor:

1. $32c^2 - 98d^2$

$2(16c^2 - 49d^2)$

$2(4c-7d)(4c+7d)$

2. $x^2z - 2xyz - 48y^2z$

$z(x^2 - 2xy - 48y^2)$

$z(x-8y)(x+6y)$

Page 1

7.4 Factoring Completely - Day 2

After factoring out the GCF...

Factorable binomials -

Subtraction and 2 perfect squares

Factorable trinomials - can be written so...

If one variable $\rightarrow$ exponent on middle term is half the exponent on the 1st term

If two variables $\rightarrow$ exponent on 1st and last term is squared and the middle term has one of each variable

Page 2

Examples: Are the following polynomials factorable?

1. $a^3 - 5a^2 + 6$

NO

(exponents X)

2. $16p^2 - 27q^2$

NO

(27 is not a perfect square)

3. $3z^4 + 4z^2 + 1$

Yes

(exponents $\checkmark$)

4. $g - 16$

NO

(g is not squared)

5. $9x^2 + 25$

NO

(plus)

6. $30 + 11r + r^2$

$r^2 + 11r + 30$

Yes

When factoring completely:

1. Check for a GCF every single time

2. Are there any factorable binomials or trinomials?

IF SO - FACTOR.

3. Repeat step 2 until there are no factorable polynomials.

Page 3

Page 4

7. $4x^2 - 36$

$4(x^2 - 9)$

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

8. $10x^3 - 4x^2 - 6x$

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

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

9. $g^2 - 5gh - 50h^2$

$(g-10h)(g+5h)$

10. $y^8 - 32y^4 + 256$

$(y^4 - 16)(y^4 - 16)$

$(y^2 - 4)(y^2 + 4)(y^2 - 4)(y^2 + 4)$

$(y-2)(y+2)(y^2+4)(y-2)(y+2)(y^2+4)$

$(y-2)^2(y+2)^2(y^2+4)^2$

Page 5

Page 6

HOMEWORK

Worksheet - HW 7.4 - Day 2