

Name: _____
 Date: _____
 Class: _____

Algebra
 Unit 7
 HW 7-4

1) Factor: $x^2 - 81$

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

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

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

3) Factor: $x^4 - 36$

$$(x^2-6)(x^2+6)$$

4) Factor: $x^2 - 7x + 10$

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

Sum & sign
 $\rightarrow \frac{+10}{10 \quad 1}$
 $\boxed{-5 + -2 = -7}$
 Total -7

5) Factor: $x^2 + 3x - 40$

$$(x-5)(x+8)$$

J.F sign
 $\rightarrow \frac{-40}{1 \quad 40}$
 $\frac{2 \quad 20}{4 \quad 10}$
 $\boxed{-5 + 8 = 3}$
 Total +3

6) Factor: $\frac{2x^2}{2} + \frac{20x}{2} + \frac{42}{2}$

CCF = 2

$$2(x^2 + 10x + 21)$$

$$2(x+3)(x+7)$$

Sum & sign
 $\frac{+21}{1 \quad 21}$
 $\boxed{3 + 7 = 10}$
 Total +10

7) Factor: $\frac{x^3}{x} + \frac{7x^2}{x} + \frac{10x}{x}$

GCF = x

$x(x^2 + 7x + 10)$

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

8) Factor: $x^2 - 8x - 228$

$(x+12)(x-19)$

d.f sign
-228

1	228
2	114
3	76
4	57
6	38

12 + -19 = -7
Total -7

9) Factor: $x^2 - 60x + 324$

$(x-6)(x-54)$

Same sign
+324

1	324
2	162
3	108
4	81

-6 + -54 = -60

9	36
12	27
18	18

total -60

10) Factor: $\frac{2x^3}{2x} + \frac{66x^2}{2x} - \frac{296x}{2x}$

GCF → 2x

$2x(x^2 + 33x - 148)$

$2x(x-4)(x+37)$

d.f sign
-148

1	148
2	74

-4 + 37 = 33

Total +33