Calculating what you need on the exam to pass

$.30 exam + .70 Mark = 60$

$0.30 exam = 60 - 0.70 Mark$

$$Exam = \frac{60 - 0.70\ Mark}{0.30}$$

=

Factoring Chapter 3

2. Expand + Simplify

a) $(2a-5)^2 = (2a-5)(2a-5)$
$= 4a^2 - 10a - 10a + 25$
$= 4a^2 - 20a + 25$

c) $(7x-3y)(-4x-2y-6) = -28x^2 - 14xy - 42x + 12xy + 6y^2 + 18y$
$= -28x^2 - 42x - 2xy + 18y + 6y^2$

e) $(3x-5)(6x+4) - (x-2)(2x-7) = 18x^2 + 12x - 30x - 20 - (2x^2 - 7x - 4x + 14)$
$= 18x^2 - 18x - 20 - 2x^2 + 7x + 4x - 14$
$= 18x^2 - 2x^2 - 18x + 7x + 4x - 20 - 14$
$= 16x^2 - 7x - 34$

3. a) GCF

ii) $18ab^2 + 42a^3b^4 - 36a^4b^5 = 6ab^2(3 + 7ab^2 - 6a^3b^3)$

b) Simple Trinomials

i) $r^2 - 5r - 36$ M -36, A -5, N $-9, +4$
$(r-9)(r+4)$

ii) $r^2 + 6r - 7$ M -7, A 6, N $-1, +7$
$(r+7)(r-1)$

iii) $p^2 - 17p + 72$ M 72, A -17, N $-9, -8$
$(p-9)(p-8)$

v) $2x^2+12x-80 = 2(x^2+6x-40)$ M -40, A 6, N +10, -4 — 8×5, 1×40, 2×20, 4×10, 5×8

$2(x+10)(x-4)$

c) Decomposition

i) $3x^2-17x+10$ M 30, A -17, N -15, -2

$3x^2-15x-2x+10$

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

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

ii) $3x^2+x-4$ M -12, A +1, N +4, -3

$3x^2+4x-3x-4$

$x(3x+4)-1(3x+4)$

$(3x+4)(x-1)$

iii) $4n^2-15n+9$ M 36, A -15, N -3, -12 — 1×36, 2×18, 3×12

$4n^2-3n-12n+9$

$n(4n-3)-3(4n-3)$

$(4n-3)(n-3)$

D. Difference of Squares

$50x^2-162y^2$

i) $16x^2-9 = (4x+3)(4x-3)$

ii) $49x^2-64 = (7x+8)(7x-8)$

iii) $25x^2-81y^2 = (5x+9y)(5x-9y)$

$50x^2-162y^2 = 2(25x^2-81y^2)$

$= 2(5x+9y)(5x-9y)$

$16a^4-81b^4 = (4a^2+9b^2)(4a^2-9b^2)$

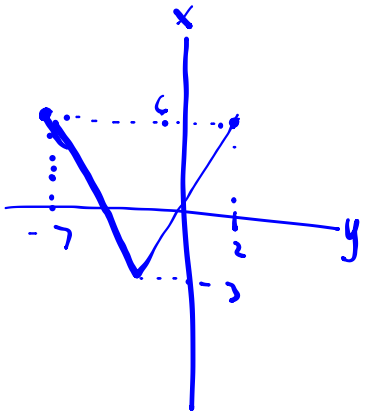
$= (4a^2+9b^2)(2a+3b)(2a-3b)$

e) Perfect Squares.

i) $9m^2+12m+4$

$= (3m+2)^2$

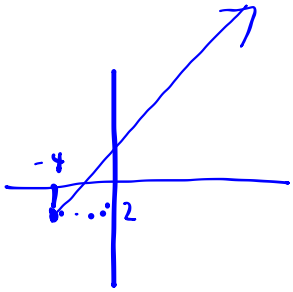
ii) $16m^2-24mn+9n^2 = (4m+3n)^2$



Domain

$\{x \mid -7 \leq x \leq 2, x \in R\}$

Range $\{y \mid -3 \leq y \leq 6, y \in R\}$



$\{x \mid x \geq -4, x \in R\}$

or $\{x \mid -4 \leq x \leq \infty, x \in R\}$