

Factoring Review - sheet 9

Do all work in the space provided.

1. Common factor each of the following.

$$a) 25xy + 15x^2$$

$$b) 12m^2n - 8mn + 20mn^2$$

$$c) 25x^3 + 10x^2 - 35x^4$$

$$d) 7rst - 14r^2s^2t$$

$$e) 9a^4b^5 - 15a^3b^7 + 6a^4b^4 - 21a^3b^4 - 30a^5b^5$$

2. Trinomial factor each of the following.

$$a) m^2 + 5m + 6$$

$$b) y^2 + 13yz + 42z^2$$

$$c) x^4 + 8x^2 - 20$$

$$d) d^2 - 6df - 16f^2$$

$$e) x^2 - 5x - 14$$

$$f) w^2 - 15w - 76$$

$$g) x^4 - 20x^2y^2 + 100y^4$$

3. Trinomial factor each of the following.

a) $2x^2 - 11x + 12$

b) $6a^2 - 19a + 10$

c) $4w^2 - 4wx - 15x^2$

d) $2x^2 + x - 15$

e) $6k^2 - 17kx + 5x^2$

f) $6c^2 + 17c + 10$

4. Factor using a difference of squares.

a) $144x^2 - 9$

b) $25y^2 - 81$

c) $49y^2 - 4x^2$

d) $(x + 8)^2 - 64$

e) $25 - (m - n)^2$

f) $(x - y)^2 - (x + 8)^2$

5. Factor completely.

a) $3x^2 + 24x + 21$

b) $3x^2 - 48$

c) $2a^4 - 32$

$$d) 12x^3 - 27x$$

$$e) 9x^2 - 36x - 45$$

$$f) 2bx^2 + 30bx - 108b$$

$$g) 24x^3 + 30x^2 + 9x$$

$$h) 3x^2 + 11x + 10$$

$$i) x^2 + xy + 3x + 3y$$

$$j) 3x^2y^2 - 6xy^3 + 15xy^2$$

$$k) (x - 4)^2 - 49y^2$$

$$l) x^2 + 4x + 4 - 25y^2$$

$$m) 16x^4 - 1$$

$$n) 9x^2 + 12xy + 4y^2 - (x + 2y)^2$$

$$o) 36x^2m^2 - 168xym^2 + 196y^2m^2 - 16m^2$$