A2.A.7: Factoring Polynomials 1: Factor polynomial expressions completely using common factor extraction, difference of perfect squares, quadratic trinomials

1 Factored completely, the expression $6x - x^3 - x^2$ is equivalent to
1) $x(x+3)(x-2)$
2) $x(x-3)(x+2)$
3) $-x(x-3)(x+2)$
4) $-x(x+3)(x-2)$

2 Factored completely, the expression $12x^4 + 10x^3 - 12x^2$ is equivalent to
1) $x^2(4x+6)(3x-2)$
2) $2(2x^2+3x)(3x^2-2x)$
3) $2x^2(2x-3)(3x+2)$
4) $2x^2(2x+3)(3x-2)$

3 Factor: $2x^2 + 3x - 2$

4 Factor: $4a^2 + 9a - 9$

5 Factor: $3a^2 + a - 2$

6 Factor: $10x^2 + 11x - 6$

7 Factor: $4a^2 + 11a - 20$

8 Factor: $3x^2 - 5x - 12$

9 Factor: $12a^2 + 14a - 6$

10 Factor completely: $3t^3 + 5t^2 - 12t$

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Answer Section

1 ANS: 4 PTS: 2 REF: fall0917a2

2 ANS: 4

$12x^4 + 10x^3 - 12x^2 = 2x^2(6x^2 + 5x - 6) = 2x^2(2x + 3)(3x - 2)$

PTS: 2 REF: 061008a2

3 ANS:

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

PTS: 2 REF: 069503al

4 ANS:

$(4a - 3)(a + 3)$

PTS: 2 REF: 099503al

5 ANS:

$(3a - 2)(a + 1)$

PTS: 2 REF: 069802al

6 ANS:

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

PTS: 2 REF: 090402al

7 ANS:

$(4a - 5)(a + 4)$

PTS: 3 REF: 010502al

8 ANS:

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

PTS: 2 REF: 030501al

9 ANS:

$2(2a + 3)(3a - 1)$

PTS: 2 REF: 060502al

10 ANS:

$t(3t - 4)(t + 3)$

PTS: 2 REF: 010111siii