Unit 8 Practice Test
Polynomials

1. Add or Subtract. Please write your answer in standard form.

$(2x - 5y + 2) + (5x + 6y - 7)$	$(2p - 7q - 4) + (3q + 2p - 1)$
$(2x - 5) - (x - 2)$	$(3m + 5) - (-2m + 3)$
$(5x - 3t - 7) - (x - 2t - 3)$	$(a - 3b + 5) - (-a + 2b + 3)$
$(3n^2 + 5n - 6) + (-n^2 - 3n + 3)$	$(y^2 + 6y - 5) + (-y^2 - 3y - 1)$
$(3x^2 - 4x - 2) - (-x^2 - 4x + 7)$	$(y^2 - 3y - 5) - (-y^2 - 7y + 4)$
$(u^3 - 3u^2v + 2uv^2) + (3u^2v - 2uv^2 - v^3)$	$(2x^2y - 3xy^2 - y^3) + (2x^2y - xy^2)$
$(3a^3 - 2ab^2) - (a^3 - 4ab^2 - b^3)$	$(2p^2q - 3pq^2 + q^3) - (-p^2q + q^3)$

2. Multiply. Please write your answer in standard form.

$x^2 \cdot x^5$	$(ab^2)(a^2b)$
$(4y^6z)(2yz^4)$	$(ab^2)(5a^2b^3)(3a^3)$
$\left(\frac{2}{7}a^2\right)(21a^5)$	$(-a^3b)(-a^2b^2)(-ab^3)$
$ab(a + b)$	$2x^2y(2x^2 - 3xy + y^2)$
$\frac{1}{3}x^2(6x^2 - 9xy - 3y^2)$	$(x + 1)(x + 5)$
$(3a - 2)(a - 3)$	$(3x + 5)(2x - 3)$
$(3y - 4)(y - 2y^2 + 6)$	$(2r - s)(s^2 + 4r^2 - 4rs)$

3. Divide. Please state the expression in simplest form.

$\dfrac{24}{52}$	$\dfrac{9c^3}{3c}$
$\dfrac{9c^3}{3c}$	$\dfrac{3x^3y}{(-x)^2y}$
$\dfrac{xy^2z^3}{x^3y^2z}$	$\dfrac{2a^3b - 6a^2b^2 + 4ab^3}{2ab}$
$\dfrac{9m^5 + 12m^4 - 6m^3}{-m^3}$	$\dfrac{28r^3s^2 + 42r^2s^3 - 56r^3s^3}{-7r^2s^2}$
$\dfrac{3m + 9}{m + 3}$	$\dfrac{x + 6}{36 - x^2}$

$$\frac{b^2 - 9}{b + 3}$$	$$\frac{6y + 30}{y^2 - 25}$$
$$\frac{(x + 4)(2x + 1)}{(1 + 2x)(x - 3)}$$	$$\frac{25 - b^2}{b^2 + 12b + 35}$$
$$\frac{25c + 15d}{50c^2 + 30d^2}$$	$$\frac{4b^2 - 5b - 6}{8b^2 + 6b}$$
$$\frac{a^2 + 8a + 16}{16 - a^2}$$	$$\frac{2xy}{x^2y - y^2x}$$

4. Factor completely.

$uv^2r - u^2vs$	$2x^2y^2 - 12xy$
$ab^2 - a^2b$	$\pi r^2 - 2\pi r$
$s^2 - 12s + 20$	$x^2 - 3x - 28$
$x^2 + 8x + 12$	$y^2 - 5y - 14$
$c^2 - c - 6$	$9m^2 - 25mn - 6n^2$
$3m^2 + 11mn + 6n^2$	$y^2 - 64$
$4x^2 - 1$	$a^4 - b^2$

Factor completely.

$6c^2 + 18cd + 12d^2$	$6u^2v - 11u^2v^2 - 10u^2v^3$
$16x^5y^2 - xy^6$	$2a^4 - 18a^2$
$5a^2 + 10ab + 5b^2$	$6c^2 + 18cd + 12d^2$
$3xy^2 - 27x^3$	$m^{16} - 1$