Perform the indicated operations.

1) $(5y^2 + 9y - 10) + (3y^2 - 4y + 17)$

$$3y^2 - 4y + 17$$
$$5y^2 + 9y - 10$$
$$\overline{8y^2 + 5y + 7}$$

2) $7a - 2(3a - 5) + 6 - 4a$

$$7a \quad -6a + 10 \quad + 6 \quad -4a$$
$$1a - 4a + 16$$
$$\boxed{-3a + 16}$$

3) $(4k^3 + 6k - 10) - (-5k + 8)$

$$+ 5k - 8$$
$$4k^3 + 6k - 10$$
$$\boxed{4k^3 + 11k - 18}$$

4)   Subtract $(5y^2 + 3y - 7)$ from $8y^2 + 4y - 19$.

$$8y^2 + 4y - 19 - (5y^2 + 3y - 7)$$

$$- 5y^2 - 3y + 7$$
$$8y^2 + 4y - 19$$
$$\boxed{3y^2 + y - 12} \quad \leftarrow \frac{\begin{array}{r}19\\7\end{array}}{-12}$$

5) $(8x^3 - 7x + 15) - (6x^3 + 10x - 7)$

$$-6x^3 - 10x + 7$$
$$8x^3 - 7x + 15$$
$$\boxed{2x^3 - 17x + 22}$$

6) $(-8x^7 + 6x^5 - 3x) + (3x^7 + 10x^5 - 4x - 2)$

$$3x^7 + 10x^5 - 4x - 2$$
$$-8x^7 + 6x^5 - 3x$$
$$\boxed{-5x^7 + 16x^5 - 7x - 2}$$

7)   Subtract $(3y^2 + 4y - 6)$ from $7y^2 + 15y - 20$.

$$7y^2 + 15y - 20 - (3y^2 + 4y - 6)$$

$$-3y^2 - 4y + 6$$
$$7y^2 + 15y - 20$$
$$\boxed{4y^2 + 11y - 14}$$

8) $(a^3 + 4a - 18) - (-7a^3 - 12a + 11)$

$$+7a^3 + 12a - 11$$
$$1a^3 + 4a - 18$$
$$\boxed{8a^3 + 16a - 29}$$

9) $(15r + 8) - (3r + 2)$

$$-3r - 2$$
$$15r + 8$$
$$\boxed{12r + 6}$$

10) $7 + 2k - 5(-4k + 3) - 9k$

$$7 + 2k \quad +20k - 15 \quad - 9k$$
$$22k - 9k - 8 \quad \leftarrow \frac{\begin{array}{r}15\\7\end{array}}{-8}$$
$$\boxed{11k - 8}$$