UNIT 23 EXERCISES 1-5

QUADRATICS

2002A　1. **(A)** Factor to get $(2x+3)(2x-10) = 0$, so the two roots are $-3/2$ and 5, which sum to $7/2$.

2002B　2. **(D)** Since

$$(3x-2)(4x+1) - (3x-2)4x + 1 = (3x-2)(4x+1-4x) + 1$$
$$= (3x-2)\cdot 1 + 1 = 3x-1,$$

when $x = 4$ we have the value $3\cdot 4 - 1 = 11$.

2018A　5. **Answer (E):** Factoring $x^2 - 3x + 2$ as $(x-1)(x-2)$ shows that its roots are 1 and 2. If 1 is a root of $x^2 - 5x + k$, then $1^2 - 5\cdot 1 + k = 0$ and $k = 4$. If 2 is a root of $x^2 - 5x + k$, then $2^2 - 5\cdot 2 + k = 0$ and $k = 6$. The sum of all possible values of k is $4 + 6 = 10$.