Multiple Choice Strategy with Variables

If variables in the problems and answers:
10 STO → X, 15 STO → Y
Type in original problem, write down the value.
Type in each choice, write down the value.
If they match up, they are equivalent.
Check all four choices as more than one may be equivalent!

1. The expression $\frac{6x^3 + 17x^2 + 10x + 2}{2x + 3}$ equals

(1) $3x^2 + 4x - 1 + \frac{5}{2x+3}$
3) $6x^2 - x + 13 - \frac{37}{2x+3}$
2) $6x^2 + 8x - 2 + \frac{5}{2x+3}$
4) $3x^2 + 13x + \frac{49}{2} + \frac{151}{2x+3}$

2. The expression $\frac{4x^3 + 5x + 10}{2x + 3}$ is equivalent to

1) $2x^2 + 3x - 7 + \frac{31}{2x+3}$
3) $2x^2 + 2.5x + 5 + \frac{15}{2x+3}$
(2) $2x^2 - 3x + 7 - \frac{11}{2x+3}$
4) $2x^2 - 2.5x - 5 - \frac{20}{2x+3}$

3. What is the completely factored form of $k^4 - 4k^2 + 8k^3 - 32k + 12k^2 - 48$?

1) $(k-2)(k-2)(k+3)(k+4)$
3) $(k+2)(k-2)(k+3)(k+4)$
2) $(k-2)(k-2)(k+6)(k+2)$
(4) $(k+2)(k-2)(k+6)(k+2)$

4. When factored completely, the expression $3x^3 - 5x^2 - 48x + 80$ is equivalent to

1) $(x^2 - 16)(3x - 5)$
(3) $(x+4)(x-4)(3x-5)$
2) $(x^2 + 16)(3x - 5)(3x + 5)$
4) $(x+4)(x-4)(3x-5)(3x-5)$

5. Given i is the imaginary unit, $(2 - yi)^2$ in simplest form is

1) $y^2 - 4yi + 4$
3) $-y^2 + 4$
(2) $-y^2 - 4yi + 4$
4) $y^2 + 4$

6. The expression $(x + i)^2 - (x - i)^2$ is equivalent to

1) 0
3) -2
2) $-2 + 4xi$
(4) $4xi$

7. The expression $6xi^3(-4xi + 5)$ is equivalent to

1) $2x - 5i$
3) $-24x^2 + 30x - i$
(2) $-24x^2 - 30xi$
4) $26x - 24x^2i - 5i$

Multiple Choice Strategy with Equations
-Store each potential answer (_____ STO → X)
-Type in equation
-1 is correct, 0 is incorrect
*Be sure to check all potential answers as most equations have multiple answers

1. The solution set of the equation $\sqrt{x+3} = 3-x$ is
1) {1} 1 STO→X 1 2=2 ✓
2) {0}
3) {1, 6} 6 STO→X 0 3=-3 ×
4) {2, 3}

2. What is the solution set for the equation $\sqrt{5x+29} = x+3$?
1) {4} 4 STO→X 1 7=7 ✓
2) {−5}
3) {4, 5} 5 STO→X 0 $\sqrt{54} \neq 8$ ×
4) {−5, 4} −5 STO→X 0 $2 \neq -2$ ×

3. The solution set of $\sqrt{3x+16} = x+2$ is
1) {−3, 4}
2) {−4, 3} −4 STO→ 0 $2 \neq -2$ ×
3) {3} 3 STO→X 1 5=5 ✓
4) {−4}

4. The solution set of the equation $\sqrt{2x-4} = x-2$ is
1) {−2, −4}
2) {2, 4} 2 STO→X 1 0=0 ✓
4 STO→X 1 2=2 ✓
3) {4}
4) { }

5. What is the solution set of the equation $\frac{30}{x^2-9} + 1 = \frac{5}{x-3}$?
1) {2, 3} 3 STO→X ERR
2) {2} 2 STO→X 1 −5=−5 ✓
3) {3}
4) { }

Open Response Equations

1) Type in left hand side into Y1
2) Type in right hand side into Y2
3) Adjust window (if necessary)
4) 2nd Trace (Calc), 5: Intersect
5) The solution is the x value of the intersection

*You may want to divide both sides at the beginning to make the values smaller

1. Solve for all values of x: $\sqrt{x-5}+x = 7$ (Y1 | Y2)

windows good

Intersect $x=6$

2. What is the solution set for the equation $\sqrt{56-x} = x$? (Y1 | Y2)

windows good

Intersect $x=7$

3. What is the solution set for the equation $\sqrt{5x+29} = x+3$? (Y1 | Y2)

windows good

Intersect $x=4$

4. Solve algebraically for x: $\sqrt{x^2+x-1}+11x = 7x+3$ (Y1 | Y2)

windows good

Intersect $x=.\overline{6}$

5. What is the solution set of the equation $\frac{30}{x^2-9}+1 = \frac{5}{x-3}$? (Y1 | Y2)

windows good

Intersect $x=2$

6. What is the solution set of the equation $\frac{3x+25}{x+7}-5 = \frac{3}{x}$? (Y1 | Y2)

windows good

Intersect $x=-3$

7. What is the solution, if any, of the equation $\frac{2}{x+3}-\frac{3}{4-x} = \frac{2x-2}{x^2-x-12}$? (Y1 | Y2)

windows good

Intersect $x=-1$

8. Solve for x: $\frac{1}{x}-\frac{1}{3} = -\frac{1}{3x}$ (Y1 | Y2)

Intersect

windows good but had to see. I would 2Box

$x=4$