

SAT RELEASED TEST ADMINISTERED ON APRIL 9, 2019

CLASSROOM SAT SESSION #1

Calculator Portion Released Test:

Fordson: 28%

District: 31%

State: 33%

3.) If  $y = x + \frac{1}{2}$  and  $z = 2x - 3$ , which of the following is equivalent to  $y + yz$  ?

A.  $2x^2 - x - 1$

B.  $2x^2 - x - 2$

C.  $2x^2 - x - \frac{1}{2}$

D.  $2x^2 - 2x - \frac{3}{2}$

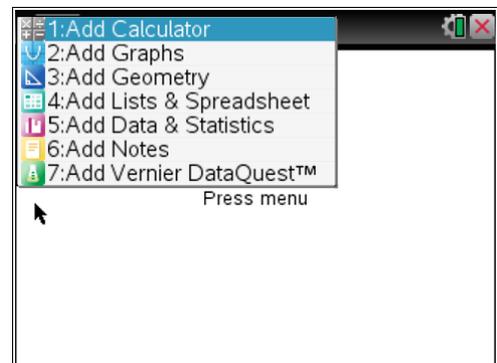
Press the Home Key.

Select 1: New Document



Press Enter.

Select 1: Add Calculator



Press Enter.



For this problem, we are going to use the Store feature of the TI Nspire. I have to pick a number to store for  $x$ . You can choose any number for  $x$ , however, we like to stay away from 0, 1, and 2. A good “random” number to pick is 5.

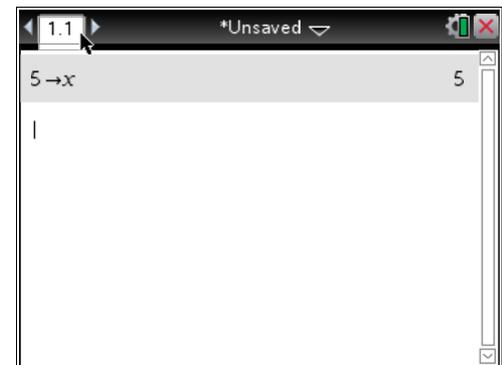
Type in a 5.

Press the CTRL key.

Press the Var key which is above the number 9.



Press Enter.



Notice that the problem says  $y = x + \frac{1}{2}$ . We are going to store this in the TI Nspire.

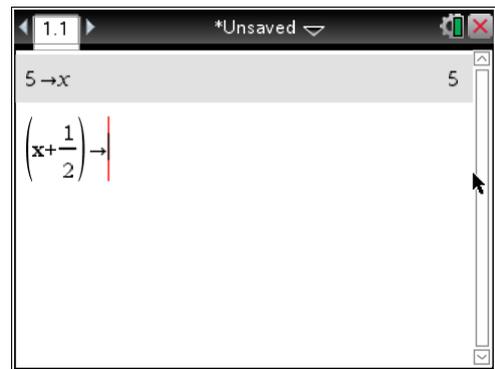
Type the opening parenthesis key.

Type in  $x + \frac{1}{2}$ .

Type the closing parenthesis key.

Press the CTRL key.

Press the Var key which is above the number 9.



Press Enter.

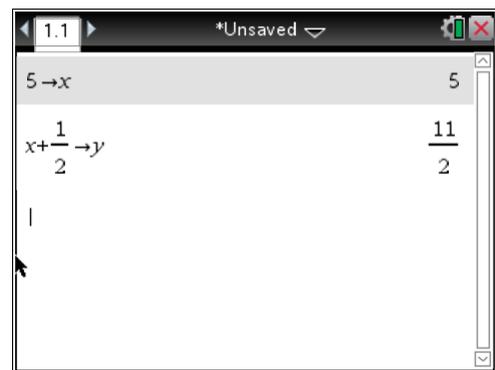
Now we want to store this expression as the variable y.

Press y.

Press Enter.

Do not worry about the value we received for the expression. Since we chose 5 for x, then  $5 + \frac{1}{2}$  does equal

$\frac{11}{2}$ . That number is irrelevant. We "randomly" chose 5. If someone chose 6, they would get a different value. In expressions, the x can be any value.



Notice that the problem says  $z = 2x - 3$ . We are going to store this in the TI Nspire.

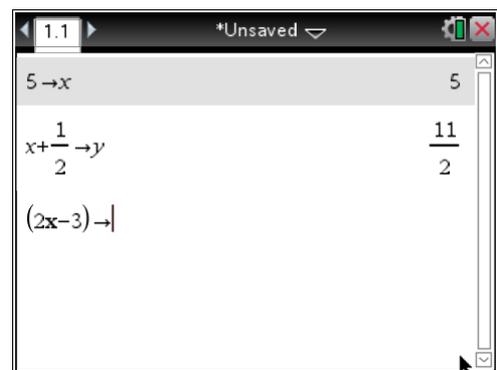
Type the opening parenthesis key.

Type in  $2x - 3$

Type the closing parenthesis key.

Press the CTRL key.

Press the Var key which is above the number 9.

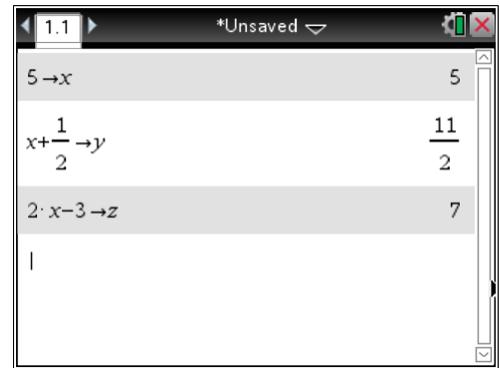


Now we want to store this expression as the variable z.

Press z.

Press Enter.

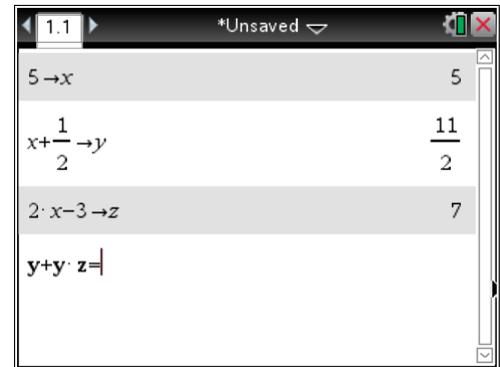
Again, do not worry about the value. Since we chose a 5 for x, then  $2 \cdot 5 - 3 = 7$ . That value is irrelevant.



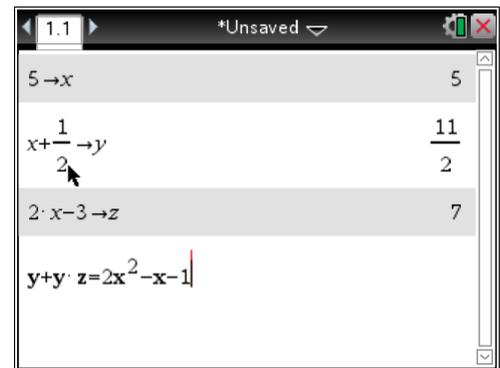
We want to determine which choice A, B, C, or D is equivalent to  $y + yz$ .

Let's test choice A.

Type into the TI Nspire:  $y + y \cdot z =$



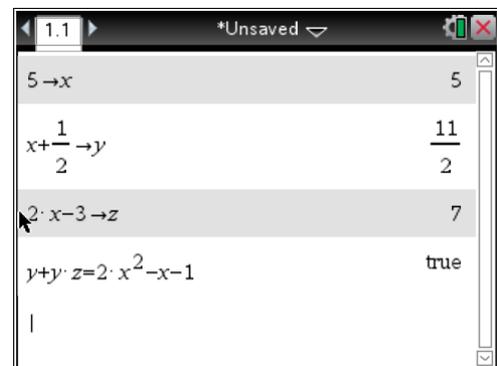
Now let's type in choice A after the equal sign.



Press Enter.

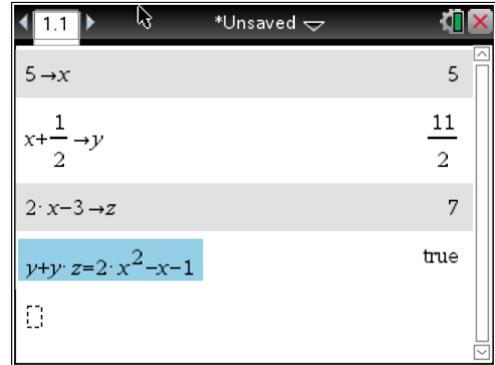
Choice A is correct.

Even though choice A is correct, let's just try Choice B so you can see what it would look like if your choice was incorrect.



We are going to copy and paste. Press the up arrow to highlight the first try.

Here is the copy part.

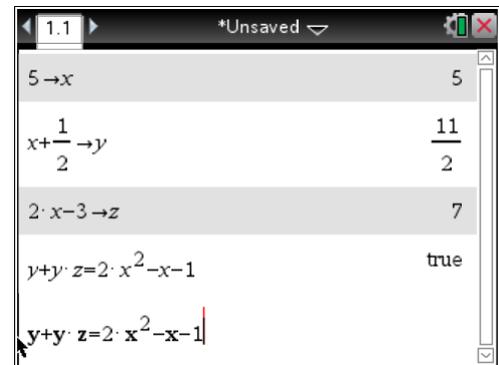


Now let's paste the entire equation.

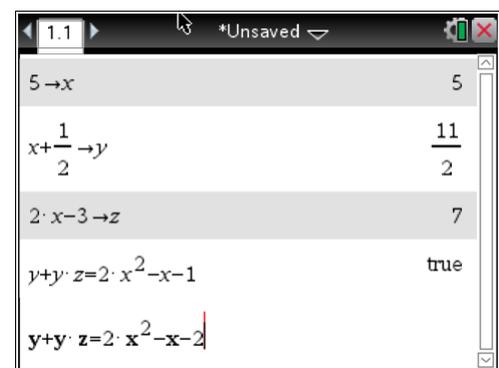
Press Enter.

Notice that the cursor is available at the end of the equation.

Now we can edit the choice to choice B.



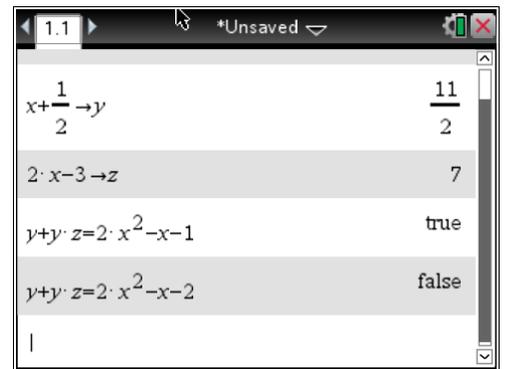
For choice B, we just had to change the minus 1 to a minus 2 at the very end of the equation.



Press Enter.

As you can see, choice A was correct and choice B was incorrect.

If you were taking the actual SAT test and received the true message for choice A, you would have just bubbled choice A and moved on to the next question. I just wanted you to see what an incorrect choice looked like.



## EXTRA PROBLEMS USING THE SAME TI NSPIRE STEPS

5.)  $2x(x^2 + 1) + (2x^2 - 2x)$

Which of the following expressions is equivalent to the expression above?

A.  $4x^2$

B.  $2x^2 + 2x$

C.  $2x^3 + 2x^2$

D.  $2x^3 + 2x^2 - 4x$

8.) Which of the following is an equivalent form of  $(1.5x - 2.4)^2 - (5.2x^2 - 6.4)$ ?

A.)  $-2.2x^2 + 1.6$

B.)  $-2.2x^2 + 11.2$

C.)  $-2.95x^2 - 7.2x + 12.16$

D.)  $-2.95x^2 - 7.2x + 0.64$