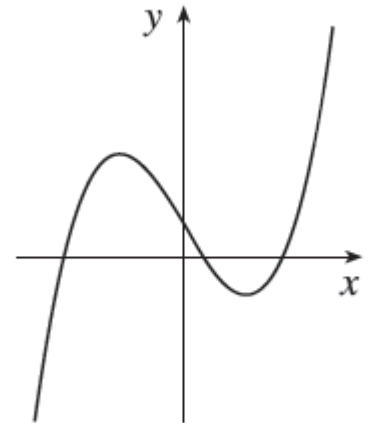


GROUP WORK

The graph shows a sketch of the curve $y = f(x)$, where $f(x) = x^3 - 5x + 2$.

- a) Use the fact that $x = 2$ is a root of $f(x) = 0$ to find the exact values of the other two roots of $f(x) = 0$.



- b) Write down the roots of:

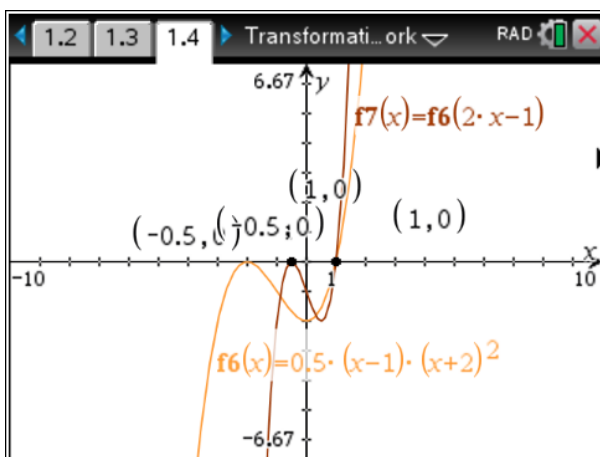
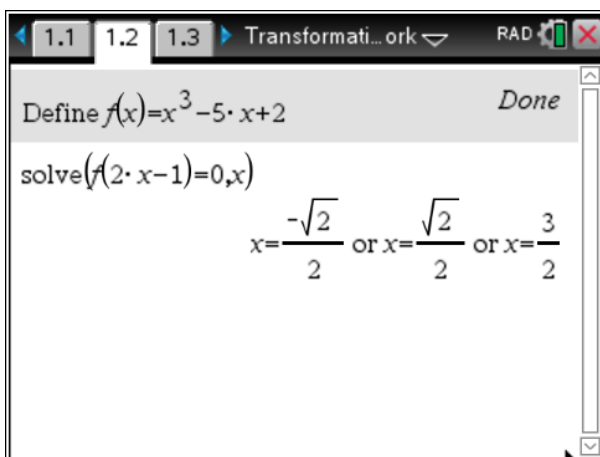
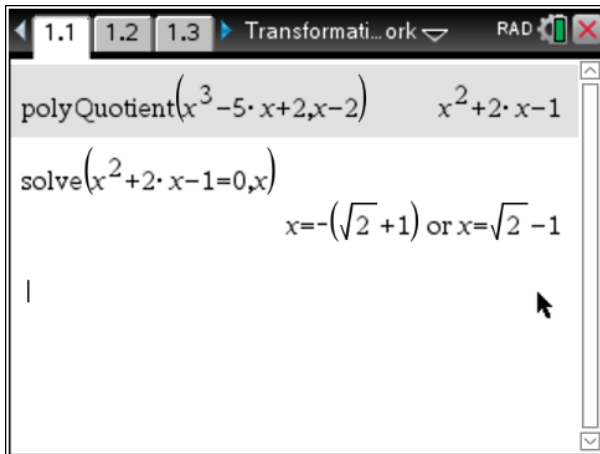
i) $f(x-3)$

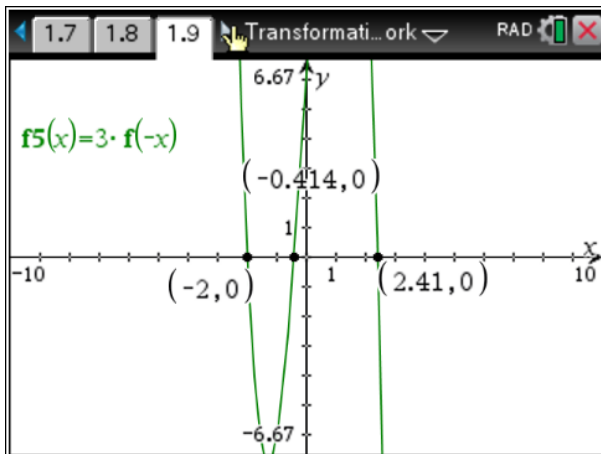
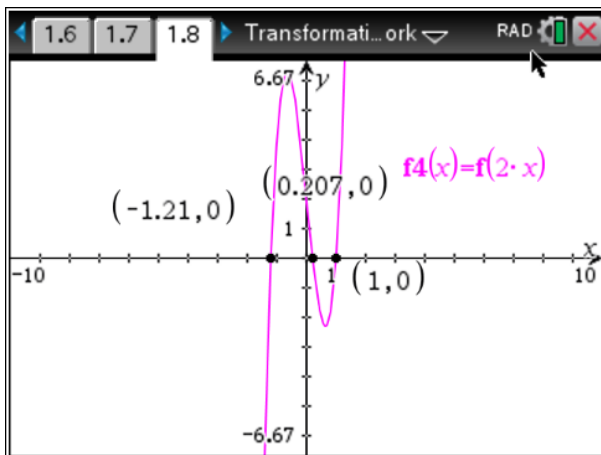
ii) $f(2x)$

iii) $3f(-x)$.

USING CAS:

Combine algebraic manipulation and reasoning with CAS functionality to enhance understanding and check over the solutions. Using algebraic and graphing features of TI Nspire CAS.





Graph showing the solution to the equation $f_7(x) = 0$. The x-axis ranges from -10 to 10, and the y-axis ranges from -6.67 to 6.67. The solution is given by:

$$\text{solve}(f_7(x)=0, x) \quad x = \frac{-\sqrt{2}}{2} \text{ or } x = \frac{\sqrt{2}}{2} \text{ or } x = \frac{3}{2}$$

POLLS:

1.1 Poll 1 transf.. ons RAD

Consider $f(x) = \frac{1}{2}(x-1)(x+2)^2$. The roots of $f(2x-1)$ are

- A (0,0) and (-1.5,0)
- B (1,0) and (-0.5,0)
- C (-1,0) and (0.5,0)
- D (1,0) and (-2,0)

1.1 Poll 2 transf.. ons RAD

Point P(10,60) lies on the graph of h(x). Find the image of P on the graph of $3h(-2x)$. Give your answer as a coordinate point.

Student: Type response here.

Possible approach using CAS:

