1. Given $f(x) = 6x^2 - 4x + 2$, find $f(-1)$

2. Multiply $(x-2)(2x+5)$

3. Find the zeros of the quadratic function $f(x) = x^2 - 8x + 15$

4. Draw a graph that represents the function $f(x) = -(x-2)^2 - 1$

5. $4(multiplicity\ 2)\ and\ -2$ are the zeros of a polynomial. Write an equation that has these zeros.

6. Use the graph to determine whether the function is even, odd, or has neither symmetry.
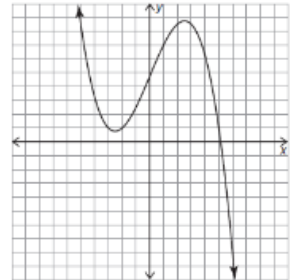

7. What is the remainder for the division $x-1\overline{)x^4 + 6x^3 - 12x^2 - 38x - 21}$?

8. What are the possible rational roots of $x^3 - 29x^2 + 25x - 15$?

9. What is the domain of the function $f(x) = \dfrac{3x-12}{x-5}$?

10. Multiply $\dfrac{2x^2 - 2x}{x^2 + 2x+1} \cdot \dfrac{2x+2}{3x-3}$?

11. What is the 6th term in the geometric sequence in which $a_1 = 4$ and $r = 2$

12. What is the common ratio for the geometric sequence $4, 16, 64, 256, \ldots$?

13. What is the result of simplifying $\sqrt{40x^4 y^{13}}$? Assume all variables to be positive.

14. If $f(x) = \sqrt{x+2}$ and $g(x) = x^2$, find $(g \circ f)(4) =$

15. Using $\triangle ABC$, the tangent of $\angle B$ is
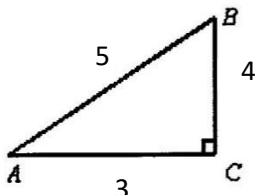
16. What is x to the nearest degree?
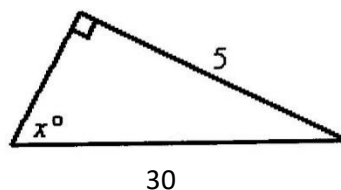
17. Write a sine function that has a vertical stretch of 4 and a period of $\frac{\pi}{2}$?

18. Use the Law of Sines to find side c in triangle ABC, given: $A = 25°, B = 37°, b = 13$

$$\text{Law of Sines: } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

19. Use a calculator to evaluate the expression: $\log_{0.75} 17$

20. Simplify the expression: $\ln e^{18x}$

21. Solve the following system by elimination or substitution: $\begin{cases} 5x - 2y = 14 \\ -5x + 35y = -80 \end{cases}$

22. Determine if (-2,3,0) is a solution to system of equations $\begin{cases} 2x + 3y - 4z = 5 \\ -3x + 3y + 5z = 15 \\ 4x - 3y + 5z = -17 \end{cases}$

23. Classify the following system: $\begin{cases} 6x - 3y = 15 \\ -2x = -5 - y \end{cases}$

24. The solution(s) of $x^2 - 6x + 8 = 0$ is/are:

25. Factor the polynomial completely: $3x^2 - 18x - 48$