READY

Topic: Geometric Symbols

Make a sketch that matches the geometric symbols. Label your sketch appropriately.

1. ΔRST

2. $\overrightarrow{AB}$

3. $\angle XYZ$

4. $\overleftrightarrow{GH}$

5. $\overline{JK} \perp \overline{PQ}$
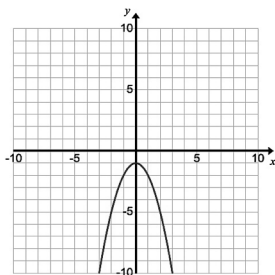
6. Point S bisects $\overline{MN}$.

7. $\overrightarrow{AB}$ bisects $\angle XYZ$
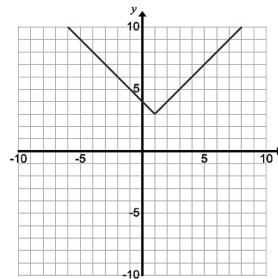
SET

Topic: Features or Functions

Find the following key features for each function:

8.

9.

10.

$$f(x) = \begin{cases} -(x+3), & x < -3 \\ (x+3), & x \geq -3 \end{cases}$$

a. Domain and range

b. Intercepts

c. Location and value of maxima/minima

d. Intervals where function is increasing or decreasing

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Write a function that meet the given requirements.

11. A function that is always decreasing

12. A function that is symmetrical about the line x=3

13. A function with a minimum of 5 at $x = 1$

14. A function that is increasing from (-∞, 2) then decreasing from [2, ∞)

15. A function with one real root

16. A function that has a domain from [-2, ∞)

17. A function with a range from [0, ∞)

18. A function with a common factor of 2

19. A function that is also a geometric sequence

20. A function with x-intercepts at (-1, 0) and (1,0)

GO

Topic: Inverse Function

Find the inverse of each function. If the inverse is not a function, restrict the domain.

21. $f(x) = x^2; f^{-1}(x) =$

22. $g(x) = 2x + 4; g^{-1}(x) =$

23. $f(x) = (x + 1)^2; f^{-1}(x) =$

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24. $h(x) = \frac{1}{3}x + 6; h^{-1}(x) =$

25. $f(x) = \{(-3,5)(-2,-9)(-1,-2)(0,-5)(1,-4)(2,6)(3,10)(4,8)\};$

$f^{-1}(x) = \{(\quad , \quad)(\quad , \quad)(\quad , \quad)(\quad , \quad)(\quad , \quad)(\quad , \quad)(\quad , \quad)(\quad , \quad)\}$

Write the piecewise-defined function for the following absolute value functions

26. $h(x) = |x + 3|$

27. $f(x) = |x^2 - 4| + 1$

28. $g(x) = 5|x + 3|$

29. $f(x) = |x^2 - 16|$

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