Honors Precalculus Name_____

2018 Summer Assignment

Factor each completely.

1) $x^2 + 10x + 9$

2) $x^2 - 9x + 20$

3) $x^2 + 4x - 12$

4) $x^2 + 2x - 24$

5) $3v^2 + 20v + 32$

6) $2n^2 - n - 28$

7) $3x^2 + 23x + 14$

8) $8r^2 - 20r - 48$

9) $4x^2 - 1$

10) $25k^2 - 1$

11) $16x^2 - 25$

12) $r^2 - 25$

Solve each equation by factoring.

13) $5n^2 + 38n + 48 = 0$

14) $8m^2 + 37m + 20 = 0$

15) $7a^2 + 40a - 16 = -4$

16) $15x^2 - x + 1 = 7$

Solve each equation by taking square roots.

17) $7x^2 + 3 = -80$

18) $-10 - 3n^2 = -39$

19) $8a^2 - 10 = 54$

20) $7p^2 - 9 = 418$

Solve each equation by completing the square.

21) $v^2 + 8v - 39 = 0$

22) $r^2 - 4r - 28 = -9$

Solve each equation with the quadratic formula.

23) $10k^2 = 20 - 12k$

24) $6k^2 = 3$

Identify the parent function, and describe the transformations on the function.

25) $h(x) = x^2 - 9$

26) $h(x) = 2|x - 3|$

27) $h(x) = (x - 2)^2 + 5$

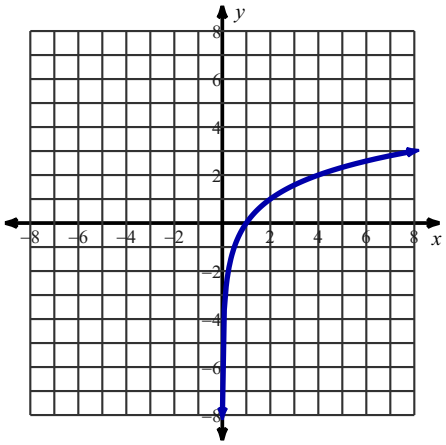
28) $h(x) = -\sqrt{x} - 4$

29) $h(x) = |x + 3| - 6$

30) $h(x) = -\frac{1}{3}(x + 7)^2 + 1$

Identify what type of function is graphed in each graph below. (linear, quadratic, cubic, square root, cube root, absolute value, exponential, logarithmic)

31)



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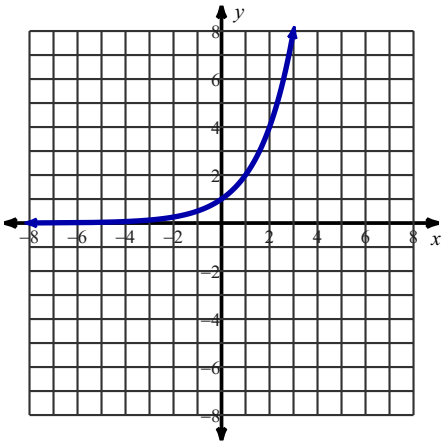

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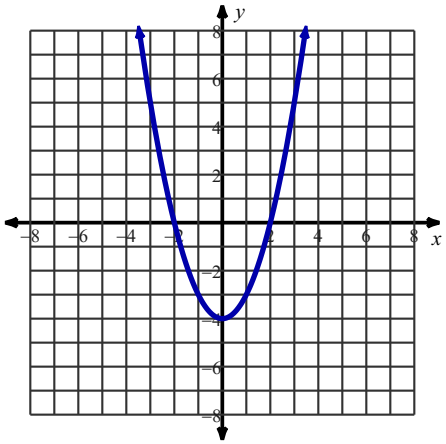

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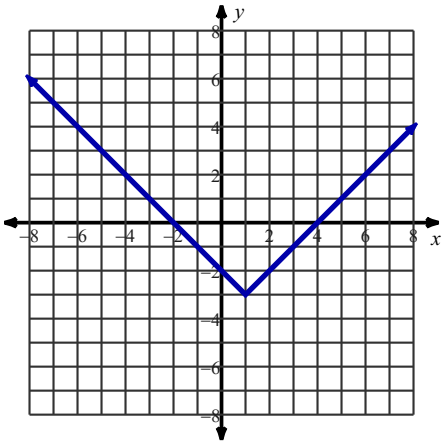

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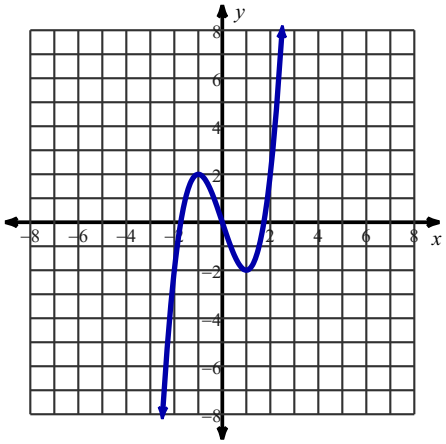

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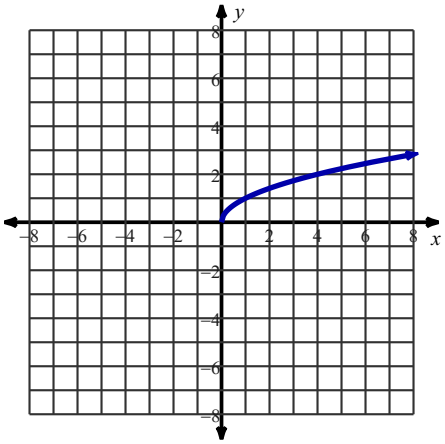

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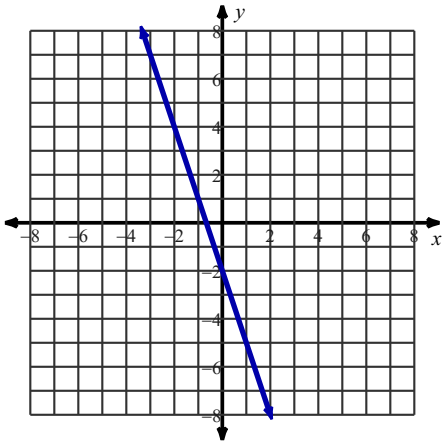

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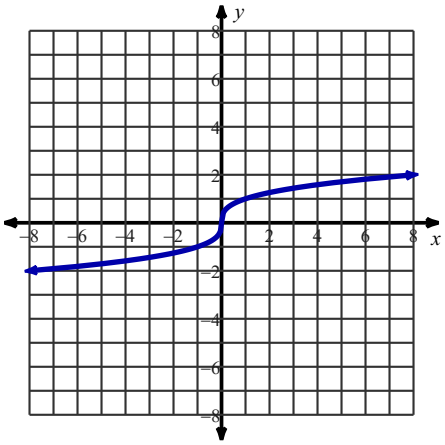
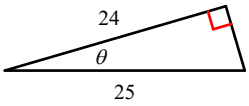
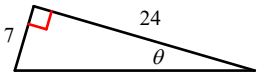


Find the value of the trig function indicated.

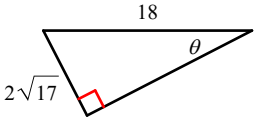
39) sin θ



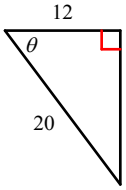
40) sin θ



41) tan θ

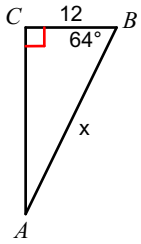


42) sin θ



Find the measure of each side indicated. Round to the nearest tenth.

43)



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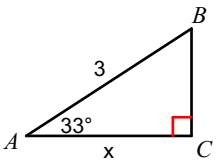

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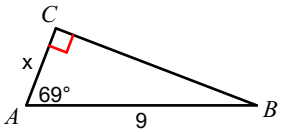

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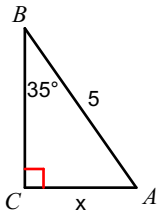

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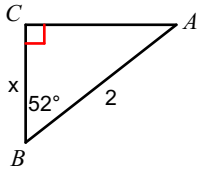

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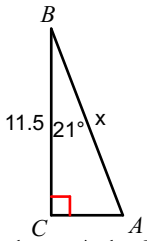
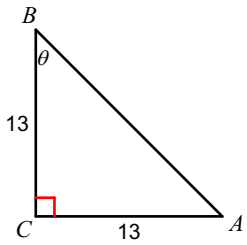


Find the measure of each angle indicated. Round to the nearest tenth.

49)



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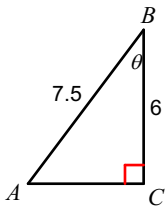

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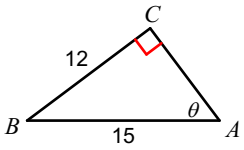

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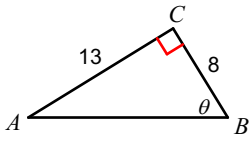

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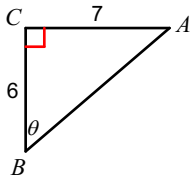

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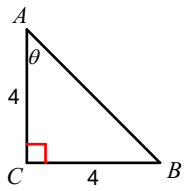

Functions

55) Given the functions: $f(x) = 2x - 6$ $g(x) = x^2 + 2x + 1$ $h(x) = \dfrac{x}{x-3}$

Evaluate:

a) $f(2)$ b) $f(n+1)$ c) $g(-3)$ d) $f \circ g$ e) $h \circ f$ f) $g(x) - f(x)$