



OAK HALL SCHOOL

2024-2025

Suggested Review Exercises
for students entering

*Honors
Algebra 2*



*A message from the
Math Department*

Mathematics is a subject that is cumulative in nature as it constructs new knowledge from foundational prior knowledge. Therefore, as it is imperative to our students' success, we require them to have mastered certain skills and concepts before entering a new math course.

Each course in the math department has provided suggested exercises for incoming students as a resource for them to review the required prerequisites that are critical to their success in the course. While we will not be requiring students to complete these exercises as a formal assignment to be turned in, we have the highest expectations of our students as self-aware, proactive learners. Each student is responsible for gauging which prerequisites they need to reinforce and how much studying they need to do for them to start the new school year feeling confident, prepared, and accomplished.

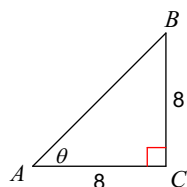
We recommend that our students begin this process mid to late summer in order for everything to be fresh in their minds but also to give them time to recover from the school year they just completed. Rest is not an indulgence; it is a human necessity. We hope everyone has a safe, fun, and restful summer and we look forward to having another great school year when we come back in August!

Solve each equation.

1) $|7k + 4| + 10 = 7$

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

2)

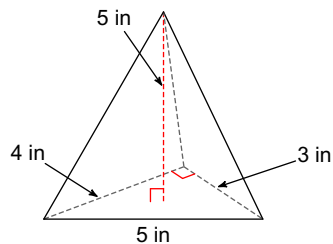


In each problem, angle C is a right angle. Solve each triangle rounding answers to the nearest tenth.

3) $m\angle B = 24^\circ$, $b = 14$ yd

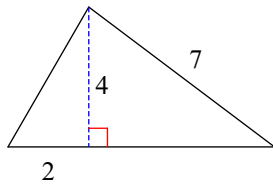
Find the volume of each figure. Round your answers to the nearest hundredth, if necessary.

4)



Find the area of each triangle. Round intermediate values to the nearest tenth. Use the rounded values to calculate the next value. Round your final answer to the nearest tenth.

5)

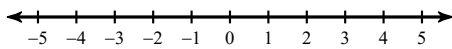


Write the standard form of the equation of the line described.

6) through: $(1, 0)$, perp. to $y = -\frac{1}{2}x + 2$

Solve each inequality and graph its solution.

7) $5(1 + v) - 10 > -5(1 - v)$



Solve each equation by factoring.

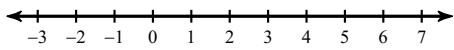
8) $x^2 + 2x = 24$

Write the standard form of the equation of the line described.

9) through: $(-3, -1)$, perp. to $y = -\frac{3}{2}x - 4$

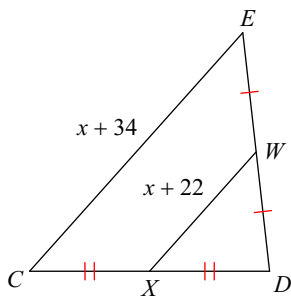
Solve each inequality and graph its solution.

10) $-5b + 15 > 8(8b - 6) - 6$



Solve for x .

11)



Evaluate each using the values given.

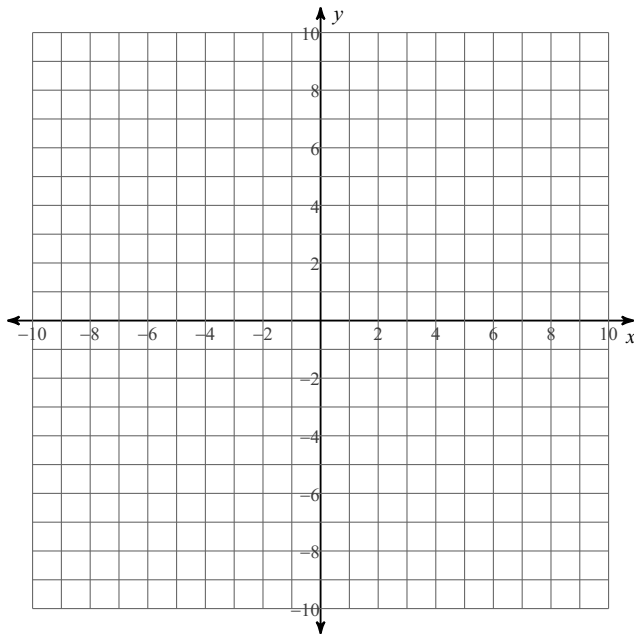
12) $q|p| + q - q$; use $p = 3$, and $q = -7$

Simplify.

13) $\sqrt[3]{875x^6}$

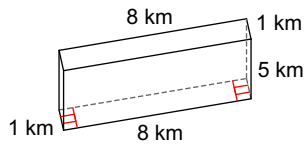
Plot each point.

- 14) $E(10, 4)$ $F(-4, 9)$ $G(2, 9)$
 $H(-4, 1)$ $I(9, 8)$



Find the volume of each figure. Round your answers to the nearest hundredth, if necessary.

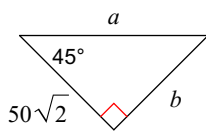
15)



Solve each equation.

16) $|6n - 6| = -24$

17)



Write the standard form of the equation of the line described.

18) through: $(-1, 5)$, perp. to $x = 0$

Simplify each expression.

19) $-3k(2k - 7) - 6k(k + 8)$

Factor each completely.

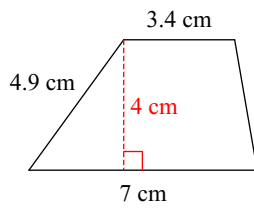
20) $r^2 - 19r + 90$

Write the standard form of the equation of the line through the given points.

21) through: $(2, 3)$ and $(-5, -3)$

Find the area of each.

22)

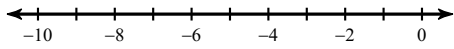


Factor each completely.

23) $2k^3 + 6k^2 + 5k + 15$

Solve each inequality and graph its solution.

24) $-3 < -5x + 6x$



Find the other endpoint of the line segment with the given endpoint and midpoint.

25) Endpoint: $(-9, 10)$, midpoint: $(-7, 3)$

Solve each equation.

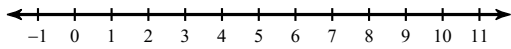
26) $|6 - 3x| + 7 = 37$

Solve each equation by factoring.

27) $7x^2 - 84 = -28x$

Solve each inequality and graph its solution.

28) $|k - 7| \leq 1$

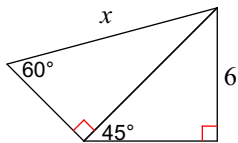


In each problem, angle C is a right angle. Solve each triangle rounding answers to the nearest tenth.

29) $m\angle B = 47^\circ$, $c = 10$ yd

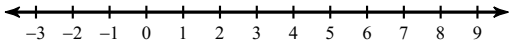
Find the missing side lengths. Leave your answers as radicals in simplest form.

30)



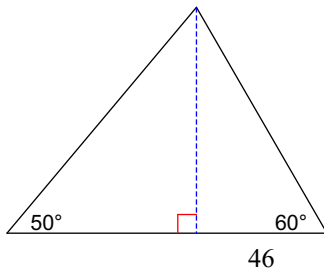
Solve each inequality and graph its solution.

31) $|2k| < 2$



Find the area of each triangle. Round intermediate values to the nearest tenth. Use the rounded values to calculate the next value. Round your final answer to the nearest tenth.

32)

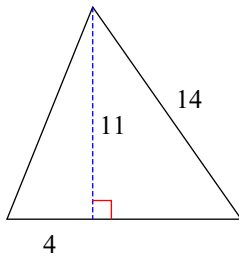


Find the midpoint of the line segment with the given endpoints.

33) $(-3, -7), (-6, 8)$

Find the area of each triangle. Round intermediate values to the nearest tenth. Use the rounded values to calculate the next value. Round your final answer to the nearest tenth.

34)

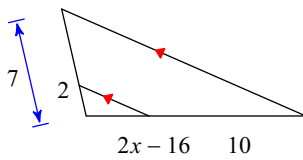


Solve each equation.

35) $8(5 - 2v) = -38 - 3v$

Solve for x .

36)

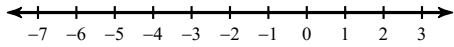


Solve each equation by factoring.

37) $n^2 + 3 = -4n$

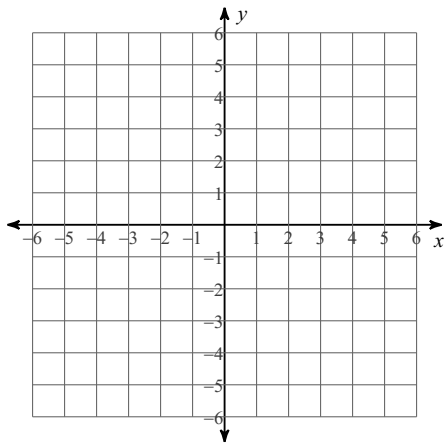
Solve each inequality and graph its solution.

38) $5 - 4x > -2(1 + 2x) + 7$



Sketch the graph of each line.

39) $x - 3y = 6$



Factor each completely.

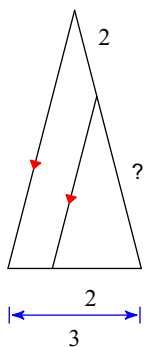
40) $-16a^2 + 116a - 120$

Evaluate each expression.

41) $(-6) + 1 - ((-6) - (-3))$

Find the missing length indicated.

42)



Solve each equation by factoring.

43) $(x + 4)(4x - 3) = 0$

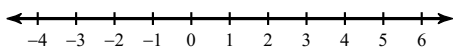
Factor each completely.

44) $x^2 + x - 72$

45) $4p^2 - 1$

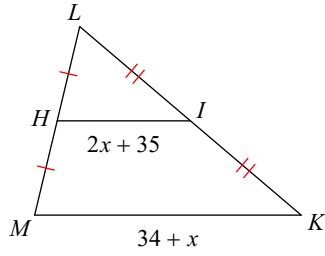
Solve each inequality and graph its solution.

46) $2 + 6a + 3 < 17$



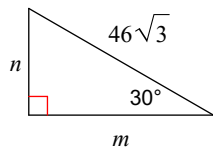
Solve for x .

47)



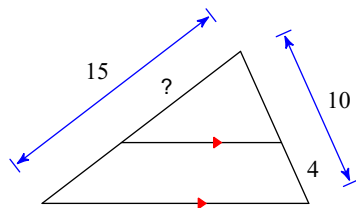
Find the missing side lengths. Leave your answers as radicals in simplest form.

48)



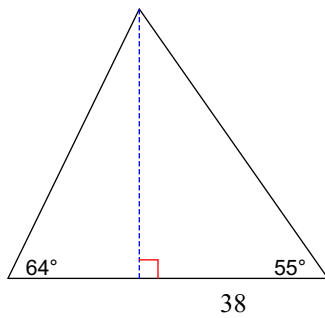
Find the missing length indicated.

49)



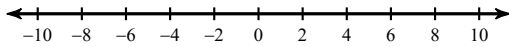
Find the area of each triangle. Round intermediate values to the nearest tenth. Use the rounded values to calculate the next value. Round your final answer to the nearest tenth.

50)



Solve each inequality and graph its solution.

51) $|9v + 3| \geq 66$



Simplify each expression.

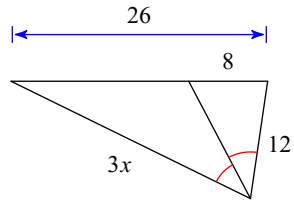
52) $7 + 3(1 - 4x)$

Evaluate each using the values given.

53) $y - |z| - z + z$; use $y = 7$, and $z = 8$

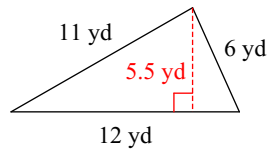
Solve for x .

54)

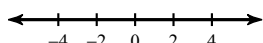
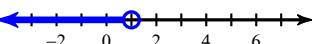
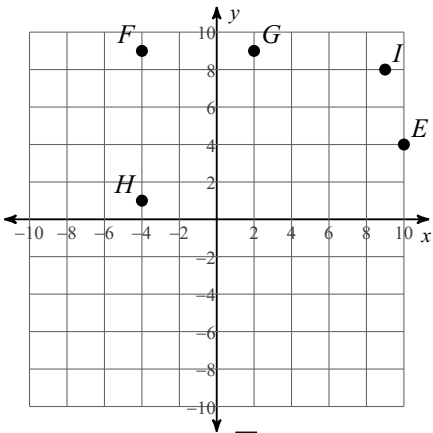


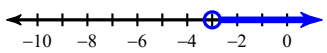
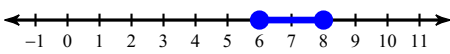
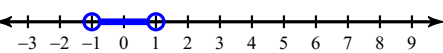
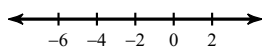
Find the area of each.

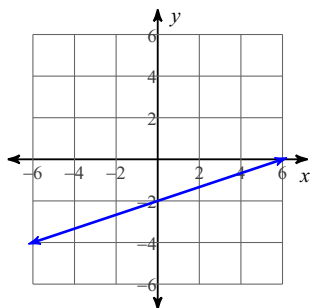
55)

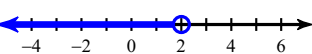
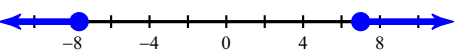


Answers to Summer Assignment

- 1) No solution. 2) 45° 3) $m\angle A = 66^\circ$, $a = 31.4$ yd, $c = 34.4$ yd
 4) 10 in^3 5) 15.4 6) $2x - y = 2$
 7) No solution. :  8) $\{-6, 4\}$ 9) $2x - 3y = -3$
 10) $b < 1$:  11) -10 12) -21
 13) $5x^2\sqrt[3]{7}$ 14) 

- 16) No solution. 17) $a = 100$, $b = 50\sqrt{2}$ 18) $y = 5$
 19) $-12k^2 - 27k$ 20) $(r - 9)(r - 10)$ 21) $6x - 7y = -9$ 22) 20.8 cm^2
 23) $(2k^2 + 5)(k + 3)$ 24) $x > -3$:  25) $(-5, -4)$
 26) $\{-8, 12\}$ 27) $\{2, -6\}$ 28) $6 \leq k \leq 8$: 
 29) $m\angle A = 43^\circ$, $a = 6.8$ yd, $b = 7.3$ yd 30) $4\sqrt{6}$
 31) $-1 < k < 1$: 
 32) 4499.1 33) $\left(-4\frac{1}{2}, \frac{1}{2}\right)$ 34) 69.9 35) $\{6\}$
 36) 10 37) $\{-1, -3\}$ 38) No solution. : 
 39) 40) $-4(a - 6)(4a - 5)$ 41) -2



- 42) 4 43) $\left\{-4, \frac{3}{4}\right\}$ 44) $(x - 8)(x + 9)$ 45) $(2p + 1)(2p - 1)$
 46) $a < 2$:  47) -12 48) $m = 69$, $n = 23\sqrt{3}$
 49) 9 50) 1751.2
 51) $v \geq 7$ or $v \leq -\frac{23}{3}$: 
 52) $10 - 12x$ 53) -1 54) 9 55) 33 yd^2