Math Course 2: At Home Learning March 19th - April 3rd

How At Home Learning will work:

Check Google Classroom regularly for scheduled review to be posted every few days. The review is meant for you to continue to practice your skills and stay up-to-date as much as possible.

The work you complete will count for **positive credit only**, this means it cannot hurt your overall grade if you are unable to complete it. Submit your work through Google Classroom as you finish by taking pictures of your paper and posting it to the appropriate assignment.

If you have questions, please post those questions to Google Classroom. We also strongly encourage you to seek out other students to form study groups via Google Meet, Zoom, etc. for additional support. We will be checking our Google Classrooms regularly to answer any questions that you may have. You may also email us directly. Attached is a guideline for appropriate interaction when communicating with other students and staff through technology.

Sincerely,

OHS Math

Concept	Page(s)
Polynomials ● Simplifying ● Factoring ● Solving Quadratics	 1 2-3 4-5
Polygons ● Similar Polygons ● Similar Triangles	6-7
Quadrilaterals ● Interior/Exterior Angles ● Measuring Segment Lengths ● Using Quadrilateral Properties	8-10

Remote Learning Guidelines

Dear students,

As we move to learning remotely it is important to remind ourselves that our reason for being together as a class and school is to support each others' learning. As such, our interactions online, like our interactions in person, are opportunities to present our best selves.

Before writing or posting anything online make certain what you write or post contributes to our learning. It should be on topic. It should not distract. Humor should only be used when it helps learning and engagement. If you are unsure whether you should write or post something in a public forum (google classroom, shared doc, group email thread, social media, etc.) check with a trusted adult (such as a parent or teacher) first.

Jefferson Union High School District has a detailed technology use policy, but if you always check that what you are doing...
...is on topic,
...is respectful,
...and motivated by an interest in learning and helping others learn,
you will likely never violate that policy and face consequences.

Remember, when we interact face-to-face we are able to read physical cues that provide additional meaning and context to what we are saying and doing. Face-to-face interactions allow for clarification and forgiveness. Online actions and statements do not reliably do this. Things you write and post online may not be interpreted as intended, they exist indefinitely, and can be taken out of context. Please be mindful, and pause to consider if misunderstanding is possible before you hit send/post/enter.

OHS Staff

Simplifying Polynomials

Find each product.

1) $6(8r - 5)$

2) $4v(5v + 4)$

3) $2x(4x + 1)$

4) $4x(6x + 2)$

5) $6(3r + 3)$

6) $(2x - 6)(7x + 8)$

7) $(2v + 6)(4v + 4)$

8) $(2x - 2)(5x + 2)$

9) $(2v - 5)(v - 1)$

10) $(7n + 8)(3n - 4)$

Simplify each expression.

11) $(3p + 8p^2 - 2p^4) + (6p^4 + 7 - p^2)$

12) $(5x^3 + 8x - 8x^2) - (5x^2 - 8x^3 - 7x)$

13) $(5 + 8b^4 - 5b^3) + (4b + 2b^4 + 6)$

14) $(6x^4 - 3 - 8x) + (6 + 4x + 8x^4)$

15) $(3x^4 + 2x^3 - 6x^2) - (6x^3 - 4x^2 - 3x^4)$

16) $7m^3 + 3m^2 - 2m^4 - 6m^3 - 3m^2 - 4m^4$

17) $7x^2 + 7 - x^3 + 2x - 6 - 3x^2$

18) $5x^2 - 7x^4 + 4 - 8 - 6x^4 + 6x$

19) $7x^4 + x - 2 - 7 - 5x^2 - 4x^4$

20) $7 - 7p^3 + 6p - 8p^3 + 1 - 4p$

Factoring Quadratics

1) $X^2 - X - 42$

2) $X^2 + 4X - 21$

3) $X^2 - 2X - 63$

4) $X^2 - 11X + 18$

5) $2X^2 + 9X - 18$

6) $3X^2 + 10X - 8$

7) $X^2 - 18X + 72$

8) $X^2 - 7X + 6$

9) $X^2 - 9X + 18$

10) $6X^2 - X - 15$

11) $3X^2 + 5X + 2$

12) $2X^2 - X - 15$

13) $4X^2 - 17X - 15$

14) $8X^2 - 25X + 3$

15) $8X^2 - 6X - 5$

16) $8X^2 + 10X - 3$

Solving Quadratics by Factoring

Solve each equation by factoring.

1) $x^2 - 9x + 18 = 0$

2) $x^2 + 5x + 4 = 0$

3) $n^2 - 64 = 0$

4) $b^2 + 5b = 0$

5) $35n^2 + 22n + 3 = 0$

6) $15b^2 + 4b - 4 = 0$

7) $7p^2 - 38p - 24 = 0$

8) $3x^2 + 14x - 49 = 0$

9) $3k^2 - 18k - 21 = 0$

10) $6k^2 - 42k + 72 = 0$

11) $x^2 = 11x - 28$

12) $k^2 + 15k = -56$

13) $3m^2 = -16m - 21$

14) $8x^2 = 30 + 43x$

15) $x^2 + 17x + 49 = 3x$

16) $m^2 = 2m$

17) $2k^2 - 14 = -3k$

18) $3v^2 + 36v + 49 = 8v$

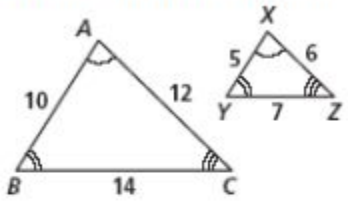
19) $10x^2 - 26x = -12$

20) $15p^2 + 80 = -80p$

Similar Polygons

Are the polygons similar? If they are, write a similarity statement, and give the similarity ratio. If they are not, explain.

1.



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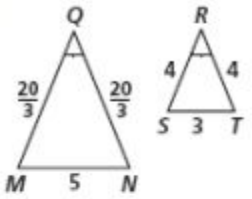

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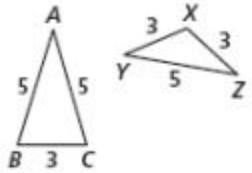

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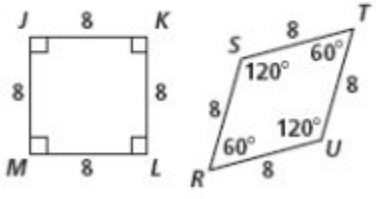

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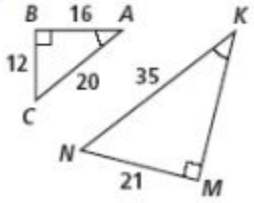

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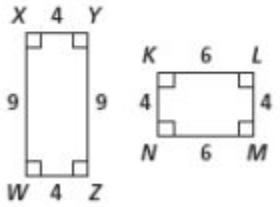
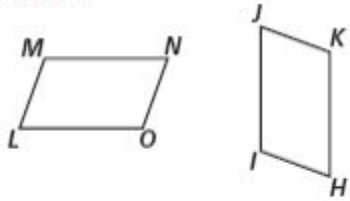


$LMNO \sim HIJK$. **Complete the proportions and congruence statements.**

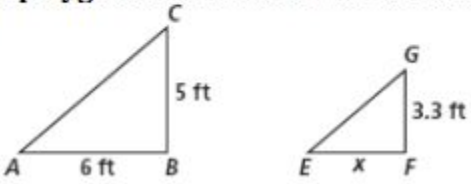
7. $\angle M \cong ?$ **8.** $\angle K \cong ?$ **9.** $\angle N \cong ?$



10. $\frac{MN}{IJ} = \frac{?}{JK}$ **11.** $\frac{HK}{?} = \frac{HI}{LM}$ **12.** $\frac{IJ}{MN} = \frac{HK}{?}$

The polygons are similar. Find the values of the variables.

13.



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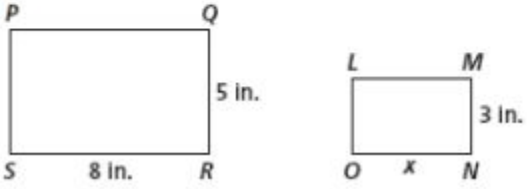

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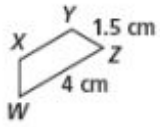

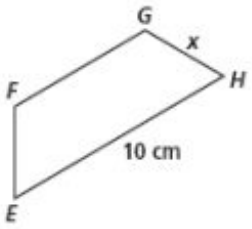

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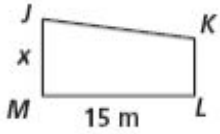
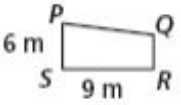
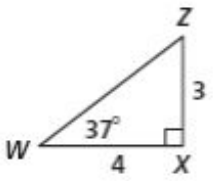
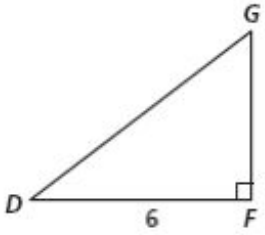




$\triangle WXZ \sim \triangle DFG$. **Use the diagram to find the following.**

17. the similarity ratio of $\triangle WXZ$ and $\triangle DFG$

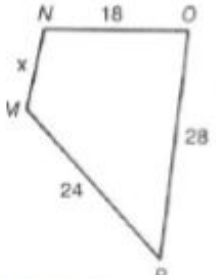


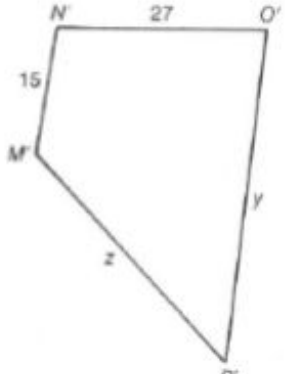


18. $m\angle Z$ **19.** DG **20.** GF

21. $m\angle G$ **22.** $m\angle D$ **23.** WZ

24. Quad. $MNOP \sim$ quad. $M`N`O`P`$. Find the scale factor of Quad. $MNOP$ to quad. $M`N`O`P`$ and the values of the variables.





Complete.

25. $\Delta ABC \sim \Delta DEF$. Their scale factor is 7:9. If the perimeter of ΔABC is 42, then the perimeter of ΔDEF is _____.

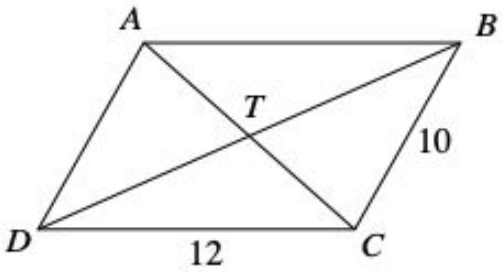
26. Quad. $PQRS \sim$ quad $TUVW$. One side of $PQRS$ has length 12. The corresponding side of $TUVW$ has length 15. The perimeter of $TUVW$ is 35 and the perimeter of PQRS is _____.

27. The perimeters of two similar polygons are 20 and 28. One side of the smaller polygon has length 4. The length of the corresponding side of the larger polygon is _____.

Properties of Quadrilaterals

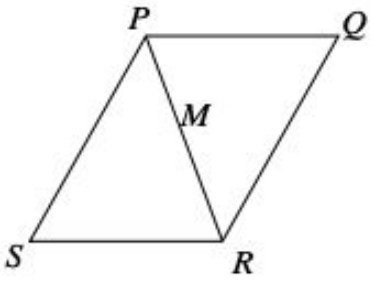
Find the required information and justify your answers.

For problems 1-4 use the parallelogram at right.



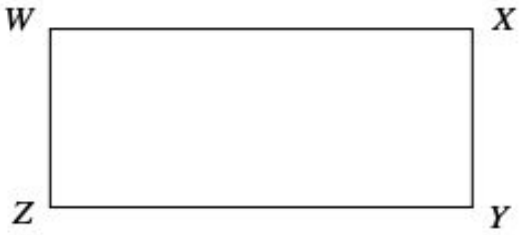
1. Find the perimeter.
2. If $CT = 9$, find AT.
3. If $m\angle CDA = 60°$, find $m\angle CBA$ and $m\angle BAD$.
4. If $AT = 4x - 7$ and $CT = -x + 13$, solve for x.

For problems 5-8 use the rhombus at right.



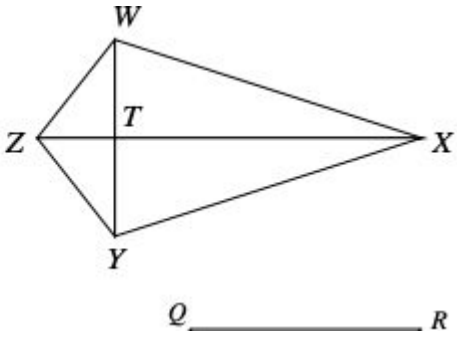
5. If $PS = \sqrt{6}$, what is the perimeter of $PQRS$?
6. If $PQ = 3x + 7$ and $QR = -x + 17$, solve for x.
7. If $m\angle PSM = 22°$, find $m\angle RSM$ and $m\angle SPQ$.
8. If $m\angle PMQ = 4x - 5$, solve for x.

For problems 9-12 use the quadrilateral at right.



9. If $WX = YZ$ and $WZ = XY$, must $WXYZ$ be rectangle?
10. If $m\angle WZY = 90°$, must $WXYZ$ be a rectangle?
11. If the information in problems 9-10 are both true, must $WXYZ$ be a rectangle?
12. If the information in problems 9-10 are both true, $WY = 15$, and $WZ = 9$, what are YZ and XZ?

For problems 17-20 use the kite at right.

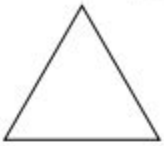
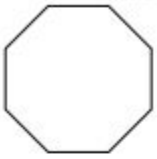


17. If $m\angle XWZ = 95°$, find $m\angle XYZ$.
18. If $m\angle WZY = 110°$ and $m\angle WXY = 40°$, find $m\angle ZWX$.
19. If $WZ = 5$ and $WT = 4$, find ZT.
20. If $WT = 4$, $TZ = 3$, and $TX = 10$, find the perimeter of $WXYZ$.

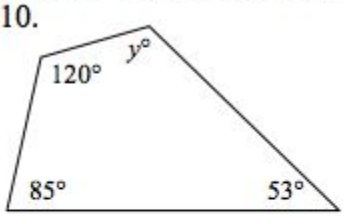
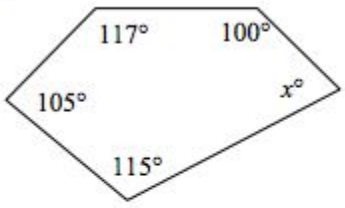
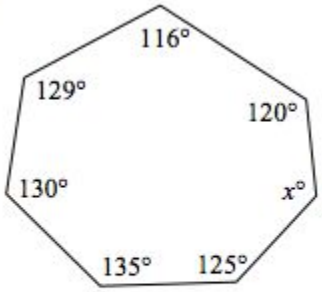
Q _____ R

Angle Measures in Polygons

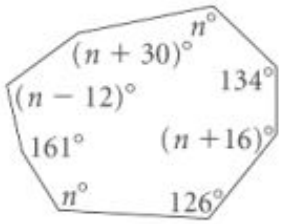
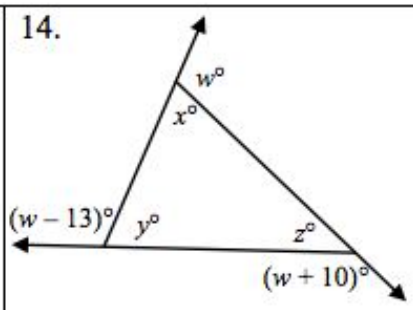
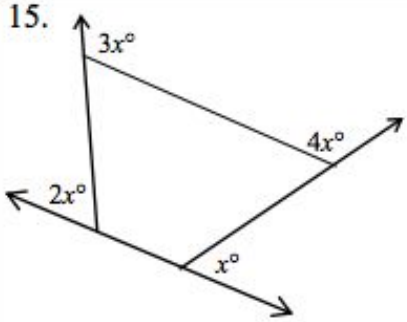
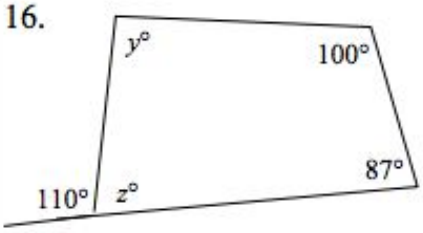
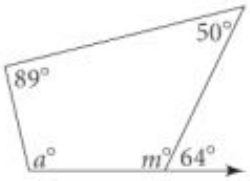
Name each ***regular*** polygon. Find the measure the indicated angles.

1. Name: _____  Sum of Interior ∠'s: _____ One Interior ∠: _____ Sum of Exterior ∠'s: _____ One Exterior ∠: _____	2. Name: _____  Sum of Interior ∠'s: _____ One Interior ∠: _____ Sum of Exterior ∠'s: _____ One Exterior ∠: _____	3. Name: _____  Sum of Interior ∠'s: _____ One Interior ∠: _____ Sum of Exterior ∠'s: _____ One Exterior ∠: _____
4. Name: _____  Sum of Interior ∠'s: _____ One Interior ∠: _____ Sum of Exterior ∠'s: _____ One Exterior ∠: _____	5. Nonagon Sum of Interior ∠'s: _____ One Interior ∠: _____ Sum of Exterior ∠'s: _____ One Exterior ∠: _____	6. Dodecagon Sum of Interior ∠'s: _____ One Interior ∠: _____ Sum of Exterior ∠'s: _____ One Exterior ∠: _____
7. If the sum of the interior angles of a regular polygon is 900°, find the number of sides.	8. If the measure of one interior angle of a regular polygon is 144°, find the number of sides.	9. If the measure of one interior angle of a regular polygon is 160°, find the number of sides.

Find the value of each variable.

10. 	11. 	12. 

Angle Measures in Polygons

13. 	14. 	15. 
16. 	17. 	18.