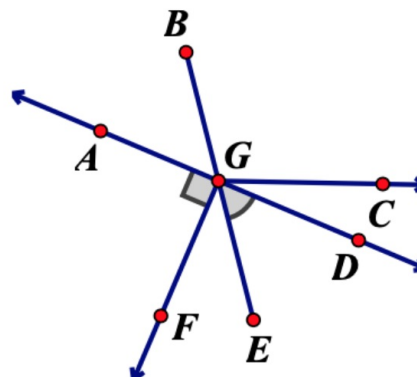For questions 1 – 10, use a number or one of the following words to complete the sentences:
collinear, non-collinear, endpoint(s), perpendicular, parallel, vertex, capital, opposite rays
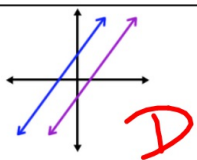
1. To draw a line segment, I need exactly __2__ points.

2. To name a line segment, I use the __endpts__.

3. To name an angle, I must use __3__ points. The __vertex__ must be the 2nd point.

4. To name a ray, I use __2__ points.
    The first point must be the __endpt.__

5. Points are named with __capital__ letter(s).

6. Two rays which together form a straight line are called __opp. rays__.

7. Two lines that meet at 90° angles are called __⊥__ lines.

8. Two lines that are in the same plane and never intersect are called __∥__ lines.

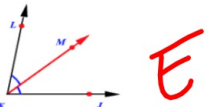9. You need at least three __noncollinear__ points to name a plane

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For questions 10 – 17, use the diagram at the right. Please use the correct symbol for naming lines, rays, segments, and angles.
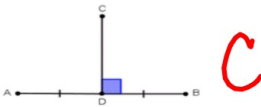
10. Name a line: __AD__

11. Name 2 rays: __GC__ and __GD__

12. Name 2-line segments: __BE__ and __AD__

13. Name a right angle: __∠AGF__

14. Name a line perpendicular to $\overrightarrow{GF}$. __GA__

15. Name 3 points that are collinear __A__, __G__, and __D__

16. Name 3 points that are non-collinear: __A__, __G__, and __E__

17. Name a pair of opposite rays. __GA__ and __GD__
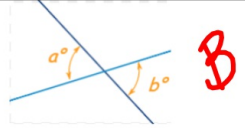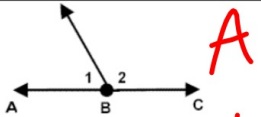
Picture	
1.	D
2.	E
3.	C
4.	B
5.	A
6. $a \perp b$	I
7. $\overline{AB}$	G
8. $\overline{EF} \cong \overline{JK}$	J / H
9. $\angle ABC$	H
10. $\bullet A$	F

Vocabulary
A. Linear Pair
B. Vertical Angles
C. Perpendicular Bisector
D. Parallel Lines
E. Angle Bisector
F. Point
G. Line
H. Angle
I. Perpendicular to
J. Congruent to

For #'s 11-13, choose the correct letter for each justification from the list below. (GCO.A.1)

Statements	Reasons
PQ + QR = PR	**11.** ___?___ A
3 + 2x + 22 = x + 17	Substitution Property
2x + 25 = x + 17	**12.** ___?___ D
X + 25 = 17	Subtraction Property of Equality
X = -8	**13.** ___?___ C

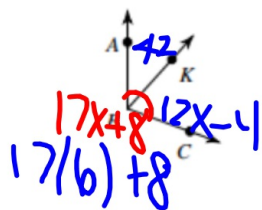$$P \bullet \quad \overset{3}{\bullet} \quad \overset{2x+22}{\qquad} \bullet R$$
$$Q$$
$$x + 17$$
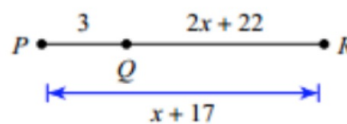
A. Segment Addition Postulate
B. Addition Property of =
C. Subtraction Property of =
D. Combine Like Terms
E. Distributive Property

14. Using the Angle Addition Postulate, solve for x and then find the measure of $\angle ABC$.
(GCO.A.1)

$m\angle ABC = 17x + 8$, $m\angle ABK = 42°$,
and $m\angle KBC = 12x - 4$. Find $m\angle ABC$.

$12X - 4 + 42 = 17X + 8$

$12X + 38 = 17X + 8$

$38 = 5X + 8$

$30 = 5X$

$X = 6$

(handwritten on figure) $17x + 8$ $12x - 4$ $17(6) + 8$
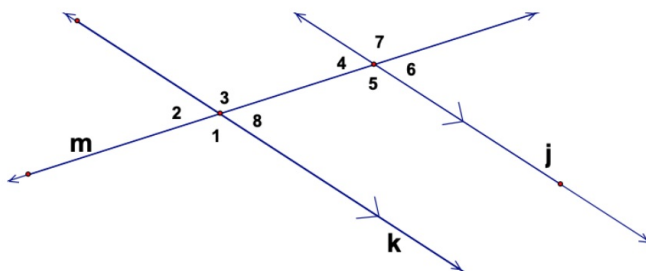
A. 110°   B. 6°   C. 42°   D. 68°

15. Joey drew a line segment, $\overrightarrow{AB}$, on patty paper and the folded it so A fell on top of B. He then put a point on the segment where the crease of the patty paper intersected $\overrightarrow{AB}$. What did Joey just find? (G.CO.D.12)

A. Angle bisector	B. Midpoint
C. Ray	D. Parallel Line

In the diagram below, $j \parallel k$. Use that fact to answer the questions below.

For questions 16 - 19, choose from the list of angle pairs below. CHOOSE ALL LETTERS THAT APPLY. (G-CO.C.9)

A. $\angle 1$ and $\angle 3$	B. $\angle 2$ and $\angle 4$	C. $\angle 8$ and $\angle 5$	D. $\angle 5$ and $\angle 3$	E. $\angle 5$ and $\angle 2$

16. Name all the pairs from A – E above that are corresponding angles. **B**

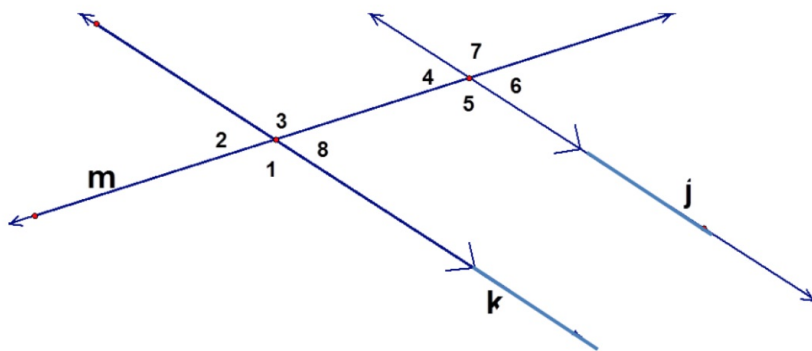17. Name all the pairs from A – E above that are alternate interior angles. **D**

18. Name all the pairs from A – E above that are same-side interior angles. **C**

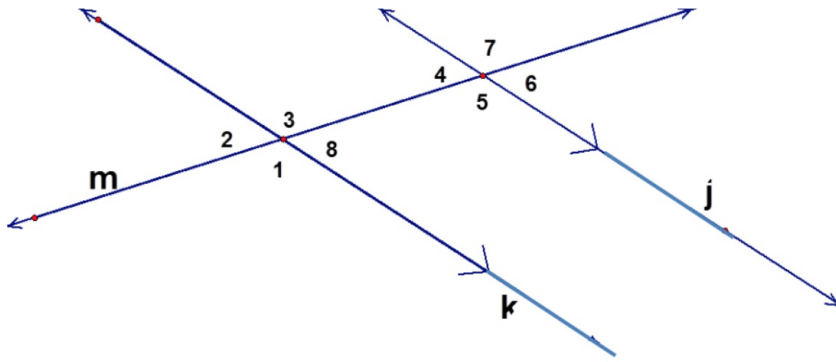19. Name all the pairs from A – E above that are vertical angles. **A**

20. Assume that $j \parallel k$. If $m\angle 8 = 2x + 5$ and $m\angle 4 = 3x - 10$, solve for x and choose the correct justification.

$$2x + 5 = 3x - 10$$
$$5 = x - 10$$
$$x = 15$$

~~A.~~ $x = 15$ by the Same-side Interior Angles Theorem
(B.) $x = 15$ by the Alternate Interior Angles Theorem
~~C.~~ $x = 37$ by the Same-side Interior Angles Theorem
D. $x = 37$ by the Alternate Interior Angles Theorem

21. Assume that $m\angle 1 = 120°$ and $m\angle 6 = 60°$, choose the correct statement.

A. Yes, the lines are parallel because the Same-side Interior Angles are supplementary.
B. Yes, the lines are parallel because the Same-side Exterior Angles are supplementary.
C. No, the lines are not parallel because Corresponding Angles must be congruent.
D. No, the lines are not parallel because Alternate Exterior Angles must be congruent.
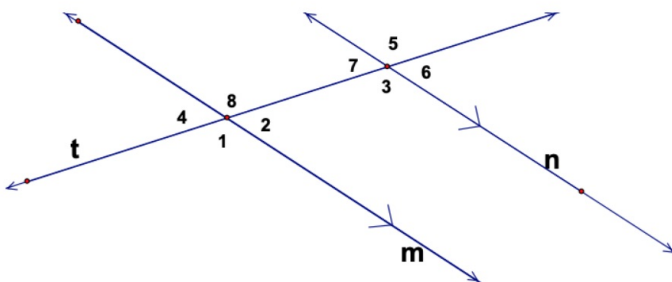
Choose the correct letter for each Justification from the list below. (G-CO.C.9)

Given: $m \parallel n$
Prove: $\angle 1 \cong \angle 5$

Statement		Justification
$m \parallel n$	22.	D
$\angle 8 \cong \angle 5$	23.	E
$\angle 1 \cong \angle 8$	24.	C
$\angle 1 \cong \angle 5$	25.	A

A. Transitive Property of congruence.
B. $\angle 1 \cong \angle 5$
C. Vertical Angles are congruent $\cong$
D. Given
E. Corresponding Angles of parallel lines are congruent
F. Prove

26. Which of the following set of theorems/postulates are valid to prove triangles are congruent? (G-CO.B.8)
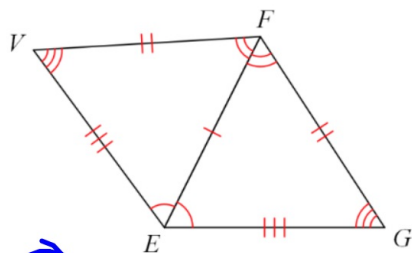
A. SAS, SSA, SSS

B. SSS, SAS, ASA ~~HL~~

C. CAT, DOG, BYE

D. HL, AAA, SSS

E. AA, HL, SS

27. For the picture shown, which of the following congruency statements is correct?

A) $\triangle EFG \cong \triangle EFV$

B) $\triangle GFE \cong \triangle VEF$

C) $\triangle EFG \cong \triangle FEV$

D) $\triangle EGF \cong \triangle EFV$

IXL #17 - M.4 & M.5 due Friday at 4pm!

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