

Write your answer on the provided answer sheet.

In the interest of saving paper, use scratch paper instead of writing on this packet.

Some questions offer a variety of choices for possible answers.

1) Name the geometric shape modeled by the floor of this room.

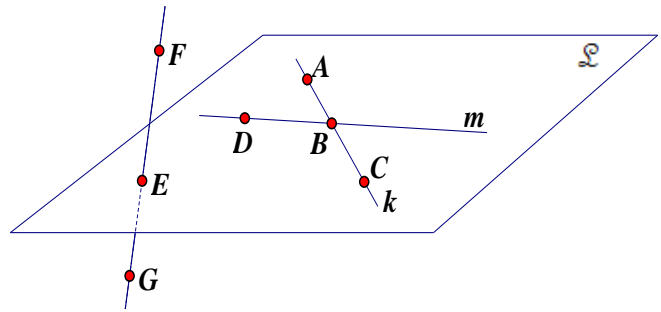
point, line, plane, circle, sphere, line segment, space

Use the figure at the right for questions 2-3.

2) Which is another name for line k ?

\overleftrightarrow{AB} , \overleftrightarrow{BD} , C , \mathcal{L} , m

3) Name the intersection of \overleftrightarrow{FG} with plane \mathcal{L} .

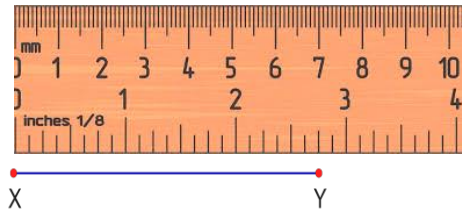


4) Suppose A, B, C and D are noncollinear points.

How many different lines can be drawn through those points?

5) Find XY.

$2\frac{3}{4}$, $3\frac{1}{4}$, $2\frac{7}{8}$, $2\frac{3}{8}$



6) Find XY if M is the midpoint of \overline{XY} and $XM = x + 4$ and $MY = 2x + 1$.

7) Find the distance between A(-3, 2) and X(4, 5).

Use the picture for problems 8 – 10.

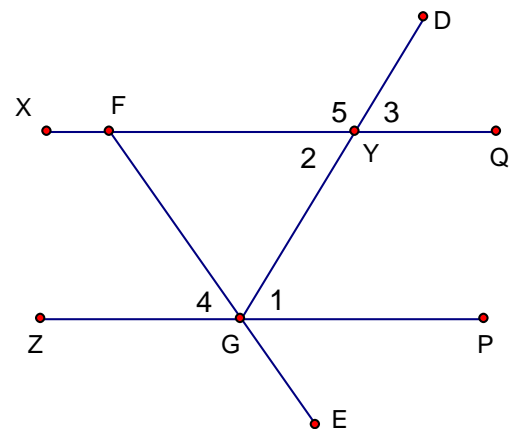
8) What is another name for $\angle 1$?

$\angle 2$, $\angle 3$, $\angle DGP$, $\angle G$, $\angle 4$, $\angle PGE$

9) Which angles form a linear pair?

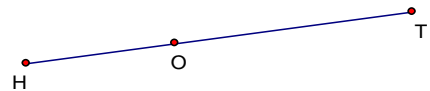
$\angle 1$ and $\angle 4$, $\angle 2$ and $\angle 3$, $\angle 5$ and $\angle 2$, $\angle 3$ and $\angle 1$

10) Which kind of angles are $\angle 1$ and $\angle 2$?



11) If $m\angle CBF = 5x + 10$ find x so that $\overline{CB} \perp \overline{BF}$.

12) Find x if O is between H and T , $HO = 2x + 1$, $OT = 4x$, and $HT = 49$.



13) Make a conjecture about the next term in this sequence: 2, 5, 9, 14...

14) Identify the converse: *If pigs fly then dogs talk.*

15) Identify the conclusion: You pass the test if you study.

16) Complete the truth table.

p	q	$p \vee \sim q$
T	T	
T	F	
F	T	
F	F	

17) Which law can be used to determine that statement (3) is a valid conclusion to (1) and (2).

(1) If a triangle has two congruent sides then the triangle is isosceles.

(2) If a triangle is isosceles then the base angles are congruent.

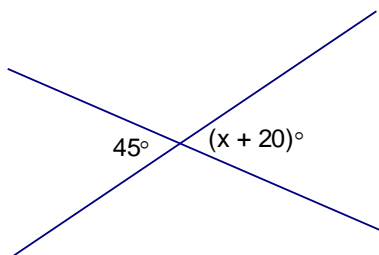
(3) If a triangle has two congruent sides then the base angles are congruent.

18) Name the property shown: If $a = b$ and $b = c$ then $a = c$.

19) Find the midpoint of the segment from $(0, 3)$ to $(6, 9)$.

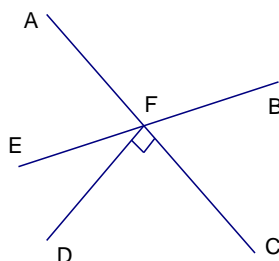
20) A , X , and Q are collinear and $AX = 12$, $XQ = 4$, and $AQ = 8$.
Which point is between the other two?

21) Find x .



22) Determine the slope of the line through $P(6, 3)$ and $Q(12, -3)$.

23) If $m\angle BFC = 60$ find $m\angle EFD$.



24) Write an equation for the line containing (2, -2) and (8, 16).

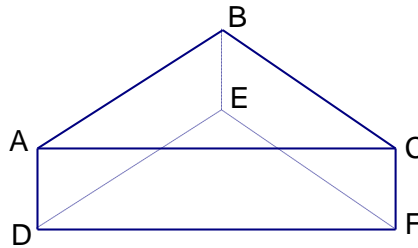
Use this picture for 25 – 27.

25) Identify the plane parallel to plane ABC.

26) Identify a segment parallel to \overline{DE} .

27) Which segment is skew to \overline{AD} ?

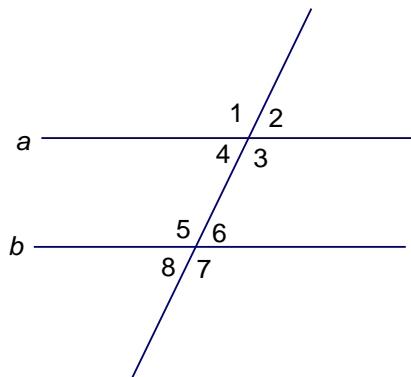
- A) \overline{AB} B) \overline{EF} C) \overline{DE} D) \overline{CF}



Use this picture for 28 – 29.

28) What kind of angle pair are $\angle 1$ and $\angle 7$?

29) If $a \parallel b$ and $m\angle 2 = 72$ then find $m\angle 6$.



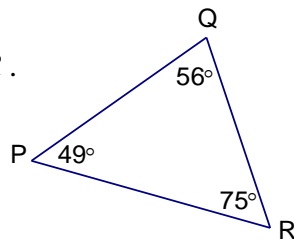
30) Write an equation for a line that is perpendicular to $y = \frac{1}{2}x + 5$.

31) Choose the assumption you would make to complete this indirect proof.

Given: $\triangle MUK$ isosceles Prove: $\angle 2 \cong \angle 3$

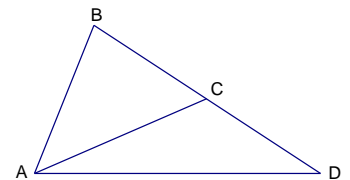
32) Give an example of a set of three numbers which cannot be the side lengths of a triangle.

33) Name the longest side of $\triangle PQR$.

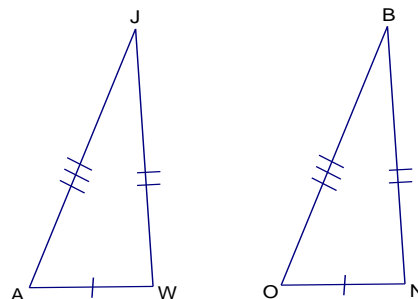


34) If \overline{AC} is a median then...

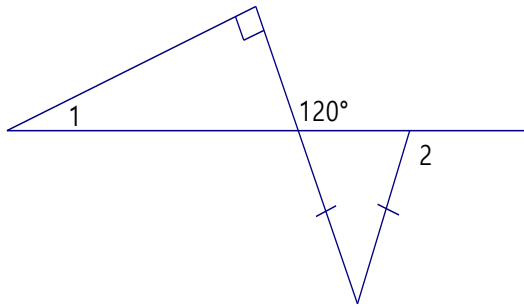
- A) $m\angle ACD = 90$ B) $\angle BAC \cong \angle DAC$ C) $BC = CD$ D) $\angle B \cong \angle D$



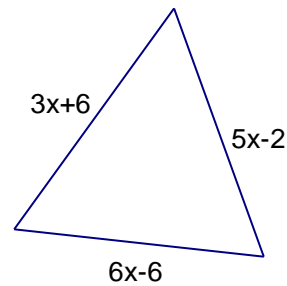
35) If $\triangle JAW \cong \triangle BON$, $m\angle O = 50$, $m\angle J = 45$, and $m\angle N = 16x + 5$ then what is x?



36) What is $m\angle 1$?



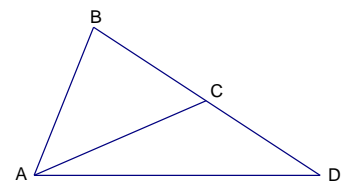
37) What is a side length for this equilateral triangle?



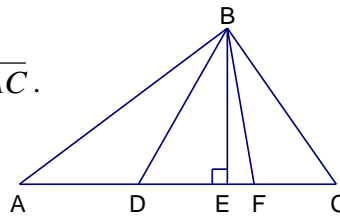
38) How would $\triangle ABC$ with vertices $A(-2, -1)$, $B(3, -1)$, and $C(6, 3)$ be classified based on its side lengths?

39) If \overline{AC} is an altitude then...

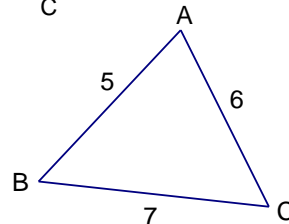
- A) $m\angle ACD = 90$ B) $\angle BAC \cong \angle DAC$ C) $BC = CD$ D) $\angle B \cong \angle D$



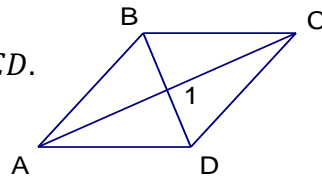
40) Find the shortest distance from B to \overline{AC} .



41) Which angle in $\triangle ABC$ has the greatest measure?



42) If $m\angle ABC = 135$ find $m\angle BCD$.



43) A length of black pipe was measured to be $20\frac{1}{2}$ in. What is the precision?

44) Find the sum of the measures of the interior angles of a convex decagon.

45) Find the sum of the measures of the exterior angles of a convex pentagon.

46) Which of the following is a property of a parallelogram?

- A) All sides are congruent.
 B) The diagonals bisect the angles.
 C) There are four right angles.
 D) The diagonals bisect each other.

47) ABCD is a parallelogram with $B(-5, 0)$, $C(7, 0)$, and $D(7, 3)$. Find the coordinates of A.

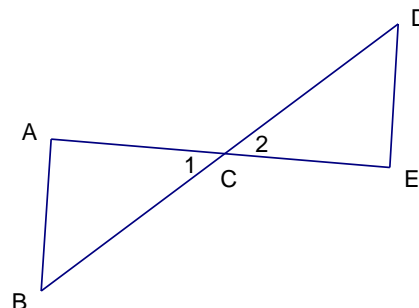
48) Evaluate $5! + 3!$

Given: C is midpt of \overline{BD}

$\angle A$ is right \angle

$\angle E$ is right \angle

Prove: $\triangle ABC \cong \triangle EDC$



Statements	Reasons
1) C is midpt of \overline{BD}	1) given
2) $\angle A$ is right \angle	2) given
3) $\angle E$ is right \angle	3) given
4) $\overline{BC} \cong \overline{CD}$	4) (question 49)
5) $\angle A \cong \angle E$	5) all right \angle 's are \cong
6) $\angle 1 \cong \angle 2$	6) vertical \angle 's are \cong
7) $\triangle ABC \cong \triangle EDC$	7) (question 50)

- 49) A) median $\rightarrow \cong$ segs
 B) midpt $\rightarrow \cong$ segs
 C) def. bisect
 D) CPCTC

- 50) A) ASA
 B) SSS
 C) AAS
 D) SAS

Given: $\overline{AB} \cong \overline{XY}$

Prove: $\overline{AX} \cong \overline{BY}$



Statements	Reasons
1) $\overline{AB} \cong \overline{XY}$	1) given
2) $AB = XY$	2) $\cong \rightarrow =$ 1
3) $AB + \overline{BX} = \overline{BX} + XY$	3) (question 51) 2
4) $AX = BY$	4) (question 52) 3
5) $\overline{AX} \cong \overline{BY}$	5) $= \rightarrow \cong$ 4

- 51) A) segment addition postulate
 B) reflexive
 C) transitive
 D) def \cong segs

- 52) A) segment addition postulate
 B) reflexive
 C) addition prop. =
 D) transitive

53) Change this general statement to a conditional statement: Vertical angles are congruent.

- A) If angles are vertical angles then they are congruent.
 B) If angles are congruent then they are vertical angles.
 C) Congruent angles are vertical.
 D) Angles are vertical if and only if they are congruent.

CH. 7 --- Know similar figures and proportions.