Geometry Practice Test Chapter 1

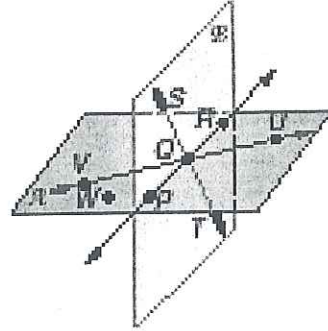**For questions 1 to 3, use the picture to the right.**

1. Name three points that are collinear.

   P, Q, R OR V, Q, U

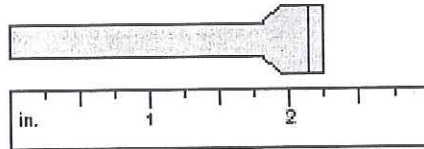2. What is the intersection of plane B and plane A?

   $\overleftrightarrow{PR}$

3. Name three points that are coplanar but NOT collinear.
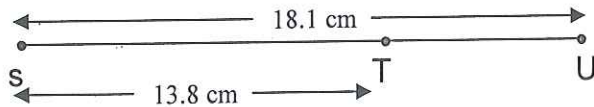
   * answers may vary

   W, P, U
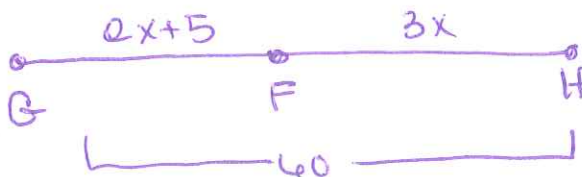
4. What is the length of the object at the right?

   $2\frac{1}{4}$ in.

5. Find the length of $\overline{TU}$ at the right.

   $18.1 - 13.8 = \boxed{4.3 \text{ cm}}$

   18.1 cm
   S
   13.8 cm
   T   U

6. Find x if F is between G and H, GF is 2x + 5, FH is 3x, and GH is 60. (Draw a picture first)

   $2x+5$ $3x$
   G   F   H
   60

   $2x+5+3x = 60$
   $5x+5 = 60$
   $\quad -5 \quad\quad -5$
   $5x = 55$
   $\boxed{x = 11}$

7. Using your answer from #6, how long is GF and how long is FH?

   GF = __27__   FH = __33__

   $2x+5$ $3(11)$
   $22+5$

8. Find the distance between P(-2, 10) and Q(-4, 3) using the distance formula.

$$d = \sqrt{(-2+4)^2 + (10-3)^2}$$
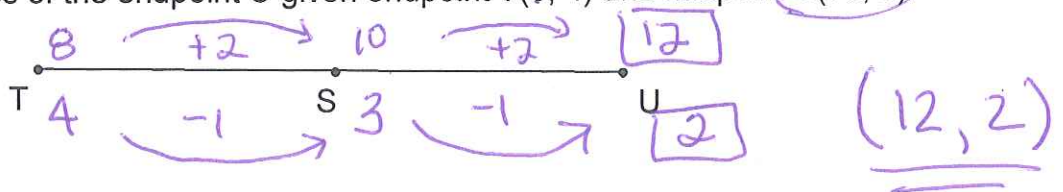$$= \sqrt{(2)^2 + (7)^2} = \sqrt{4+49} = \boxed{\sqrt{53}}$$

9. Find the coordinates of the midpoint of $\overline{LM}$ if L(11, -2) and M(-9, 13).

$X: \quad \dfrac{11 + (-9)}{2} = \dfrac{2}{2} = 1$

$Y: \quad \dfrac{-2+13}{2} = \dfrac{11}{2} = 5.5$

$(1, 5.5)$

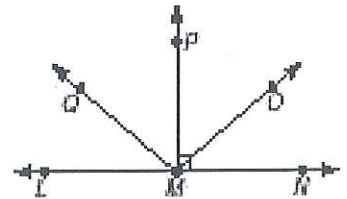10. Find the coordinates of the endpoint U given endpoint T(8, 4) and midpoint S(10, 3).

8 +2→ 10 +2→ [12]
T 4   -1   S 3   -1→ U [2]

$(12, 2)$

$X: \quad 10 = \dfrac{x+8}{2}$

$20 = x+8$
$12 = x$

Use the figure to the right to answer questions 11 – 15.

11. Is ∠PMN acute, right, or obtuse?

12. Is ∠NMQ acute, right, or obtuse?

13. If $\overrightarrow{MO}$ bisects ∠PMN, then what two angles are congruent?

∠PMO & ∠OMN

14. Name a pair of complementary angles.

∠LMQ and ∠QMP

OR

∠PMO and ∠OMN

Use the following figure for questions 15 – 19.

15. Name a pair of supplementary angles.

$\angle XZW$ & $\angle WZU$
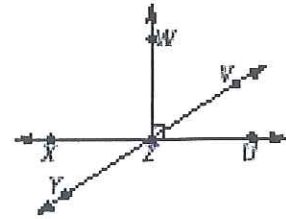
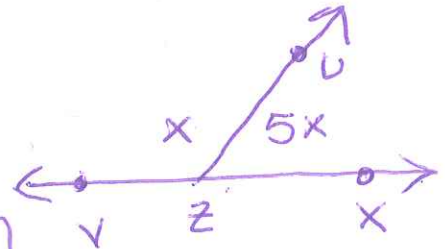16. Name a pair of vertical angles.

$\angle XZY$ and $\angle VZU$

17. Find $m\angle VZU$ if $\angle XZV$ and $\angle VZU$ are supplementary
and $m\angle XZV$ is five times $m\angle VZU$.

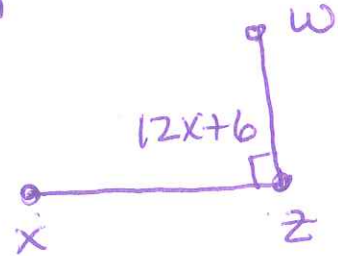$x + 5x = 180$

$6x = 180$

$x = 30$

$\boxed{\angle VZU = 30}$

18. If $m\angle XZW = 12x + 6$, find x so that $\overline{XZ} \perp \overline{WZ}$.

$12x + 6$

$12x + 6 = 90$

$12x = 84$

$\boxed{x = 7}$

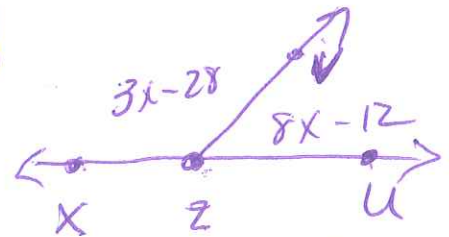19. If $m\angle XZV = 3x - 28$ and $m\angle VZU = 8x - 12$, find x and $m\angle XZV$.
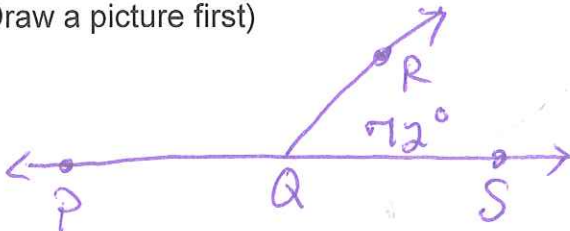
$3x - 28 + 8x - 12 = 180$

$11x - 40 = 180$

$11x = 220$

$\boxed{x = 20}$

$3x-28$ $8x-12$

$3(20) - 28 = 60 - 28 = \boxed{32}$

20. If $\angle PQR$ and $\angle RQS$ form a linear pair, find the $m\angle PQR$ if $m\angle RQS = 72°$.
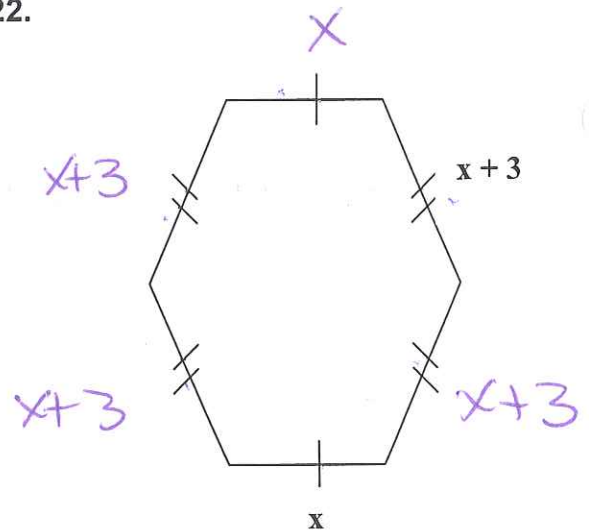(Draw a picture first)

R
$72°$
P Q S

$180 - 72 = \boxed{108°}$

Use the figure at the right to answer questions 21 – 22.

21. Which of the following describes this figure?

    a. Hexagon, ~~concave~~, irregular
    b. Hexagon, convex, ~~regular~~
    c. Hexagon, convex, irregular
    d. ~~Pentagon~~, convex, irregular

22. What is x for a perimeter of 102 feet?
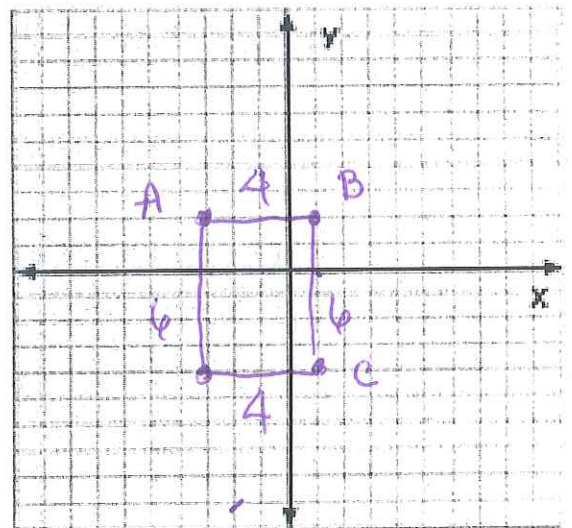
$$4(x+3) + 2x = 102$$
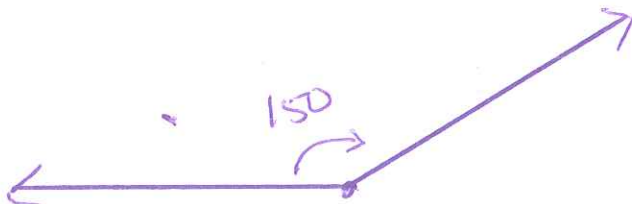$$4x + 12 + 2x = 102$$
$$6x = 90$$
$$x = 15$$

X

$x+3$ $x+3$

$x+3$ $x+3$

x

23. Determine the perimeter of quadrilateral ABCD with vertices A(-3, 2), B(1, 2), C(1, -4), and D(-3, -4).

$$6 + 6 + 4 + 4 = \boxed{20}$$

24. Use a protractor to draw a 150-degree angle.

150

25. Use a protractor to draw a 35-degree angle.

35°