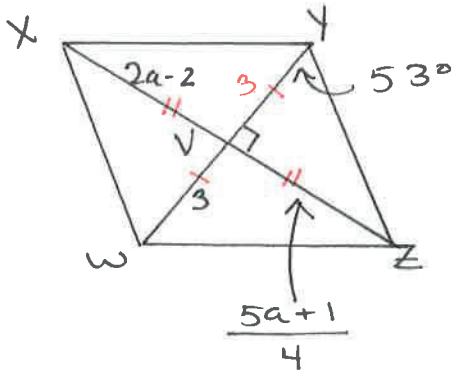
Geometry
Section 6-5
Selected Answers.



15. Angle Sum theorem

$m\angle ZVY + m\angle VYZ + m\angle YZV = 180$

$90 + 53 + m\angle YZV = 180$

$143 + m\angle YZV = 180$

$\boxed{m\angle YZV = 37°}$

16. Each diagonal of a rhombus bisects a pair of opposite angles.

$m\angle XYW = m\angle WYZ$

$\boxed{m\angle XYW = 53°}$

17. Segment addition postulate

$XV + VZ = XZ$

diagonals of a parallelogram bisect each other

$XV = VZ$

$2a - 2 = \frac{5a+1}{4}$

$4(2a-2) = 5a+1$

$8a - 8 = 5a + 1$

$3a = 9$

$a = 3$

$XV + VZ = XZ$

$2a - 2 + \frac{5a+1}{4} = XZ$

$2(3) - 2 + \frac{5(3)+1}{4} = XZ$

$6 - 2 + 4 = XZ$

$8 = XZ$

$\boxed{XZ = 8}$

18. Pythagorean theorem

$a^2 + b^2 = c^2$

since $\angle XVW$ is a right $\angle$, this applies

$$(XV)^2 + (VW)^2 = (XW)^2$$
$$(4)^2 + (3)^2 = (XW)^2$$
$$16 + 9 = (XW)^2$$
$$25 = (XW)^2$$
$$\sqrt{25} = XW$$
$$\boxed{XW = 5}$$

30. - 34. will be discussed in class