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Chapter 6

Parallelogram Diagonals
Rectangle Polygon
Rhombus Interior Angle (Interior Angle Sum)
Square Exterior Angle (Exterior Angle Sum)
Trapezoid (legs, base, base angles, midsegment, isosceles)
Kite

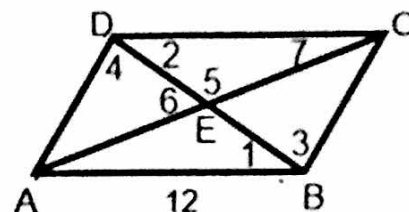
Chapter 8

Right Triangle (legs, hypotenuse) Pythagorean Theorem
Pythagorean Triples Pythagorean Converse

Complete the following:

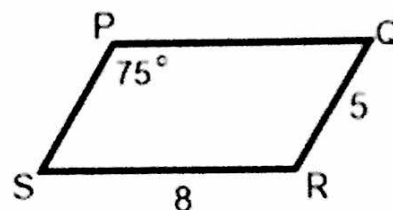
ABCD is a parallelogram.

1. $DC = 12$
2. $\angle DCB \cong \angle DAB$
3. $\overline{DE} \cong \overline{EB}$
4. $\overline{AE} \cong \overline{EC}$
5. $\angle DAB$ is supplementary to $\angle CBA$ or $\angle ADC$
6. $\angle 3 \cong \angle 4$
7. $\angle CDB \cong \angle 1$ or $\angle DBA$
8. If $m\angle 1 = 65^\circ$ and $m\angle 3 = 45^\circ$ then $m\angle 4 = 45$



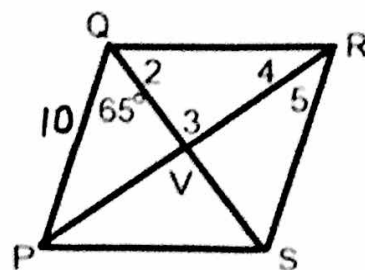
PQRS is a parallelogram.

9. $PQ = 8$
10. $\overline{PS} \cong \overline{QR}$
11. $m\angle Q = 105^\circ$
12. $m\angle R = 75^\circ$
13. $m\angle S = 105^\circ$



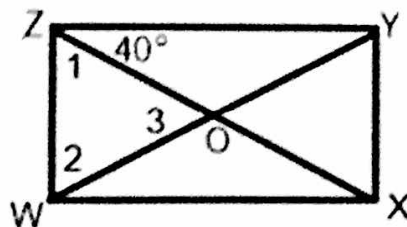
✓ PQRS is a rhombus.

14. $RS = 10$ 15. $m\angle 2 = 65^\circ$
 16. $m\angle 3 = 90^\circ$ 17. $m\angle 4 = 25^\circ$
 18. $m\angle 5 = 25^\circ$ 19. $m\angle PQR = 130^\circ$



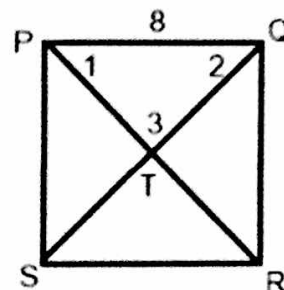
✓ WXYZ is a rectangle.

20. If $ZX = 10$, then $ZO = 5$ and $WO = 5$.
 21. $m\angle YZW = 90^\circ$ 22. $m\angle 1 = 60^\circ$
 23. $m\angle 2 = 50^\circ$ 24. $m\angle 3 = 80^\circ$



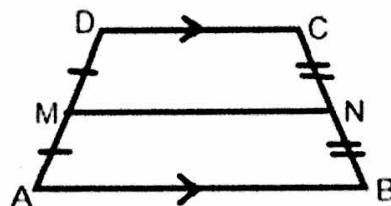
✓ PQRS is a square.

25. $QR = 8$ 26. $m\angle 1 = 45^\circ$
 27. $\overline{PR} \cong \overline{QS}$ 28. $m\angle 2 = 45^\circ$
 29. $m\angle 3 = 90^\circ$



✓ ABCD is a trapezoid.

30. The bases of ABCD are $\overline{AB}$ and $\overline{CD}$.
 31. The legs of ABCD are $\overline{AD}$ and $\overline{CB}$.
 32. $\overline{MN}$ is the midsegment.
 33. If $\overline{AD} \cong \overline{BC}$, then ABCD is isosceles.
 34. If $m\angle A = 70^\circ$ then $m\angle D = 110^\circ$, $m\angle AMN = 110^\circ$ and $m\angle DMN = 70^\circ$.
 35. If $DC = 17$ and $AB = 28$, then $MN = 22.5$.



KITE is a kite.

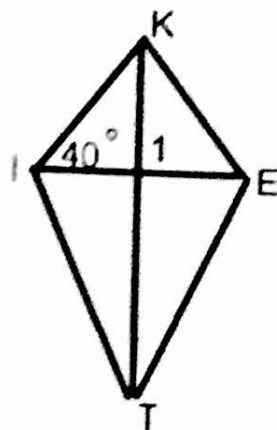
36. $\overline{KI} \cong \overline{KE}$

37. $\overline{KT} \perp \overline{IE}$

38. $m\angle 1 = 90^\circ$

39. $m\angle EKI = 100^\circ$

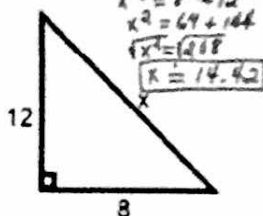
40. $\angle TEK \cong \angle KIT$



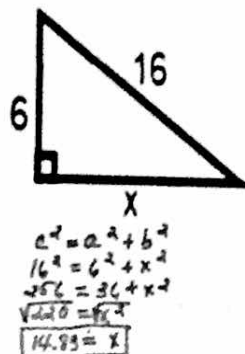
* Skip 41-46 that are circled.

Use the Pythagorean Theorem or Pythagorean Triples to solve each triangle.

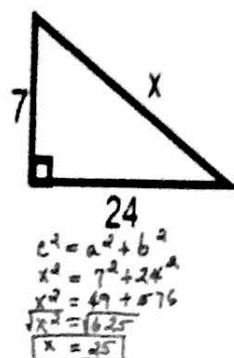
41.



42.



43.



Is the triangle right, acute or obtuse?

44.

12, 15, 9
 $15^2 \stackrel{?}{=} 12^2 + 9^2$
 $225 = 144 + 81$
 right

45.

6, $3\sqrt{2}$, 4
 $6^2 \stackrel{?}{=} (3\sqrt{2})^2 + 4^2$
 $36 \stackrel{?}{=} 18 + 16$
 $36 > 18 + 16$
 obtuse

46.

9, 8, 11
 $11^2 \stackrel{?}{=} 8^2 + 9^2$
 $121 < 64 + 81$
 acute

Find each of the following.

47. The sum of the interior angles of a regular convex nonagon.
 $180(9-2) = 1260^\circ$

48. The sum of the interior angles of a regular convex pentagon.
 $180(5-2) = 540^\circ$

49. The sum of the exterior angles of a regular convex heptagon.
 360°

50. Each interior angle of a regular convex pentagon.
 $\frac{540}{5} = 108^\circ$

51. Each interior angle of a regular convex octagon.
 $\frac{1080}{8} = 135^\circ$

52. Each exterior angle of a regular convex decagon.
 $\frac{360}{10} = 36^\circ$