

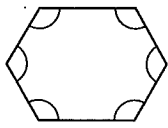
Pages 67-68 • CHAPTER REVIEW Ch. 2

1. H: $m\angle 1 = 120$, C: $\angle 1$ is obtuse 2. If $\angle 1$ is obtuse, then $m\angle 1 = 120$.
3. Answers may vary; for example, $m\angle 1 = 100$
4. An angle is a straight angle if and only if the measure of the angle is 180.
5. Substitution Prop. 6. Subtr. Prop. of = 7. Div. Prop. of = 8. Trans. Prop.
9. Def. of midpt. 10. Def. of $\angle$ bisector 11. $\angle$ Bis. Thm. 12. 32; 32; 122
13. $\angle BOA$ or $\angle DOE$
14. $180 - x = 4(90 - x)$; $180 - x = 360 - 4x$; $3x = 180$; $x = 60$
15. Def. of $\perp$ lines 16. Def. of $\perp$ lines
17. If 2 lines are $\perp$, then they form $\cong$ adj. $\angle$ s.
18. If the ext. sides of 2 adj. acute $\angle$ s are $\perp$, then the $\angle$ s are comp.
19. Show that $\angle 3$ and $\angle 4$ are supps. of $\cong \angle$ s.

20. Statements	Reasons
1. $\angle 3$ is a supplement of $\angle 1$; $\angle 4$ is a supplement of $\angle 2$.	1. Given
2. $\angle 1 \cong \angle 2$	2. Vert. $\angle$ s are $\cong$.
3. $\angle 3 \cong \angle 4$	3. If 2 $\angle$ s are supps. of $\cong \angle$ s, then the 2 $\angle$ s are $\cong$.

Pages 111-112 • CHAPTER REVIEW Ch. 3

1. 2 2. corr. 3. alt. int. 4. No; they can be skew. 5. 105, 105
6. $70 = 6x - 2$; $x = 12$ 7. $(8y - 40) + (2y + 20) = 180$; $y = 20$
8. $b \perp c$; if a trans. is $\perp$ to one of 2 $\parallel$ lines, then it is $\perp$ to the other one also.
9. $\overleftrightarrow{DE}$; $\angle A$ is supp. to $\angle ADE$, and if 2 lines are cut by a trans. and s-s, int. $\angle$ s are supp., then the lines are $\parallel$.
10. $\overleftrightarrow{BE} \parallel \overleftrightarrow{CF}$; both are $\perp$ to $\overleftrightarrow{DF}$.
11. corr. $\angle$ s $\cong$; alt. int. $\angle$ s $\cong$; s-s. int. $\angle$ s supp.; in a plane, both lines are $\perp$ to a third line; both lines are $\parallel$ to a third line.
12. $x + (2x - 15) = 90$; $x = 35$ 13. 180 14. 100
15. $\angle 3 \cong \angle 6$ (If 2 $\angle$ s are supps. of $\cong \angle$ s, then the 2 $\angle$ s are $\cong$.), $\angle 2 \cong \angle 8$ (If 2 $\angle$ s of one $\triangle$ are $\cong$ to 2 $\angle$ s of another $\triangle$, then the third $\angle$ s are $\cong$.)

16. a.  b. $(6 - 2)180 = 720$
c. 360

$$17. \frac{(18 - 2)180}{18} = 160 \quad 18. \frac{360}{24} = 15 \quad 19. \frac{(n - 2)180}{n} = 150; n = 12$$

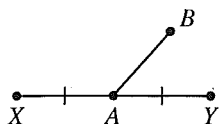
$$20. 75, 90 \quad 21. \frac{1}{100}, -\frac{1}{1000}$$

Pages 114-115 • CUMULATIVE REVIEW: CHAPTERS 1-3

A 1. sometimes 2. always 3. sometimes 4. always 5. always

6-8. Sketches may vary.

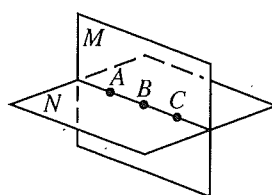
6.



7.



8.



9. not possible 10. $\frac{-3.5 + 8.5}{2} = \frac{5}{2}$ or 2.5

11. $5x + 13 = 9x - 39$, $x = 13$; $m\angle PQR = 2m\angle PQX = 2[5(13) + 13] = 156$

12. $180 - x = 2(90 - x) + 35$, $x = 35$; $\angle$ measure: 35, supp. measure: 145; comp. measure: 55

13. $x + 5x + 6x = 180$, $x = 15$; $\angle$ measures: 15, 75, 90 14. $2(60) = 120$ 15. 90

16. $90 - 60 = 30$ 17. 90 18. 60 19. $180 - 2(60) = 60$

20. $180 - 60 = 120$ 21. $180 - 120 = 60$ 22. $180 - 2(60) = 60$

23. False. If 2 lines are $\parallel$, then they do not intersect; true.

24. True. If 2 lines are $\perp$, then they intersect to form rt. $\angle$ s; true.

25. True. If an $\angle$ is not obtuse, then it is acute; false.

26. True. If a $\triangle$ is isos., then it is equilateral; false.

27. Vert. $\angle$ s are $\cong$. 28. Seg. Add. Post. 29. $\angle$ Add. Post.

30. If 2 lines are cut by a trans. and alt. int. $\angle$ s are $\cong$, then the lines are $\parallel$.

31. The meas. of an ext. $\angle$ of a $\triangle$ = the sum of the meas. of the 2 remote int. $\angle$ s.

32. Def. of $\perp$ lines 33. The sum of the meas. of the $\angle$ s of a $\triangle$ is 180.

34. Def. of $\perp$ lines 35. X 36. supp. 37. $\frac{(n-2)180}{n} = 108$, $n = 5$; pentagon

38. $2(12) = 24$ 39. $\cong$ 40. inductive 41. biconditional 42. 360

43. $(8-2)180 = 1080$ 44. acute

B 45. Statements

Reasons

1. $\overline{WX} \perp \overline{XY}$

1. Given

2. $\angle 1$ is comp. to $\angle 2$.

2. If the ext. sides of 2 adj. acute $\angle$ s are $\perp$, then the $\angle$ s are comp.

3. $\angle 1$ is comp. to $\angle 3$.

3. Given

4. $\angle 2 \cong \angle 3$

4. If 2 $\angle$ s are comps. of the same $\angle$, then the 2 $\angle$ s are $\cong$.

46. Statements

Reasons

1. $\overline{RU} \parallel \overline{ST}$

1. Given

2. $\angle 1 \cong \angle 2$

2. If 2 $\parallel$ lines are cut by a trans., then alt. int. $\angle$ s are $\cong$.

3. $\angle R \cong \angle T$

3. Given

4. $\angle 3 \cong \angle 4$

4. If 2 $\angle$ s of one $\triangle$ are $\cong$ to 2 $\angle$ s of another $\triangle$, then the third $\angle$ s are $\cong$.

5. $\overline{RS} \parallel \overline{UT}$

5. If 2 lines are cut by a trans. and alt. int. $\angle$ s are $\cong$, then the lines are $\parallel$.