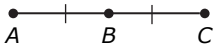
LESSON 132

1. slope m = (6 – 4)/(3 – 2) = 2
point-slope form: $y - 4 = 2(x - 2)$
slope-intercept form: $y = 2x$

2. Add the two equations to get $3x = 6$ and $x = 2$.
Use the first equation to get $2 - y = 3$ and $y = -1$.
So, the lines intersect at (2, –1).

3. By factoring:
$x^2 + 2x - 3 = 0$
$(x - 1)(x + 3) = 0$
$x = 1, x = -3$

By completing the square:
$x^2 + 2x + 1 = 3 + 1$
$(x + 1)^2 = 4$
$x + 1 = 2, x + 1 = -2$
$x = 1, x = -3$

4. 

5. Use the Angle Addition Postulate [7.7].
$m\angle XOY + m\angle YOZ = m\angle XOZ$
$2m\angle YOZ + m\angle YOZ = 150°$
$m\angle YOZ = 50°$

6. complementary angles
$2x + x = 90$
$x = 30$

7. alternate interior angles
$5x + 6 = 116$
$x = 22$

8. △ angle sum = 180
$x + 100 + 46 = 180$
$x = 34$

9. quad. angle sum = 360
$5x + 4x + 5x + 4x = 360$
$x = 20$

10. interior angle sum = $180(n - 2) = 180(5 - 2) = 540°$
one interior angle = 540/5 = 108°

exterior angle sum of any polygon = 360°
one exterior angle = 360/5 = 72°

11. interior angle sum = one interior angle × n
$180(n - 2) = 135n$; $n = 8$
The polygon has 8 sides.

12. (−3, −4)

13. (−4, 2)

14. a rotation of 180° about the origin; A composition of reflections over two intersecting lines is a rotation.

15. 11111

16. *Answers may vary. Sample(s):*
two equilateral triangles with different side lengths

17. If two segments are congruent, then they have the same length.

If two segments have the same length, then they are congruent.

18. If a figure is a rhombus, then it is a quadrilateral.

19. Substitution Property

20. Transitive Property

21. Addition Property; Add 7 to both sides.

22. Assume that ∠1 and ∠2 are both right angles.

23. $\triangle PEF \cong \triangle PGH$ by SAS.

24. There is not enough information.

25. 2. Alternate interior ∠s on parallel lines are ≅.
3. ASA
4. CPCTC

26. $\triangle DEF$ is equilateral and thus equiangular, so $a = 60$.
$\triangle DFG$ is isosceles with $m\angle DFG = 120°$, so $b = 30$.

27. $\triangle RSV$ is isosceles, so $a = m\angle V = 40$.
$\triangle RTU$ is isosceles with vertex angle 46°, so $b = 67$.
c is an exterior angle of $\triangle RTU$, so $c = 46 + b = 113$.