Geometry Development 3.1(KEY)

1) Give the order of operations in detail.

Simplify each expression.

2) $\sqrt{16} = 4$

3) $\sqrt{81} = 9$

4) $\sqrt{12} = \sqrt{4 \cdot 3} = 2\sqrt{3}$

5) $\sqrt{27} = \sqrt{9 \cdot 3} = 3\sqrt{3}$

6) $\sqrt{80} = \sqrt{16 \cdot 5} = 4\sqrt{5}$

7) $\sqrt{180} = \sqrt{36 \cdot 5} = 6\sqrt{5}$

Simplify.

8) $17 + 5 \cdot 3 - 19$
$17 + 15 - 19$
$= 13$

9) $57 \div 3 - 4 \cdot 2$
$19 - 8$
$= 11$

10) $17 - 5 \cdot 12 \div 15$
$17 - 60 \div 15$
$17 - 4$
$= 13$

11) $9 + 63 \div 7 \cdot 4$
$9 + 9 \cdot 4$
$9 + 36$
$= 45$

12) $13 + (-48) \div 4 + (-19)$
$13 + (-12) + (-19)$
$= -18$

13) $7 \cdot 3 - 42 \div (-7)$
$21 - (-6)$
$= 27$

Give the interior and exterior angle measure.

14) Octagon
Int. = (8 - 2)180°
Int. = 1,080°
Ext. = 360°

15) 14-gon
Int. = (14 - 2)180°
Int. = 2,160°
Ext. = 360°

Give the number of diagonals in each polygon.

16) Hexagon
diags = ½(6)(6 - 3)
= 9 diagonals

17) 18-gon
diags = ½(18)(18 - 3)
= 135 diagonals

Give the length and midpoint of each segment below.

18) 8 — 34

19) 25 — 49

20) -11 — 28

21) -53 — -14

L = 34 - 8 = 26
Mid = (34 + 8)/2 = 21

L = 49 - 25 = 24
Mid = (49 + 25)/2 = 37

L = 28 - (-11) = 39
Mid = (28 + -11)/2 = 8.5

L = (-14) - (-53) = 39
Mid = (-14 + (-53))/2 = -33.5

Complete each pattern.

22) 2, 5, 8, 11, 14

23) -3, 4, 1, 5, 6, 11, 17

24) -2, -1, 2, 7, 14, 23, 34

25) 8, 4, 2, 1, 1/2

List each point below and give its coordinates.