

# ANSWERS TO SIO REVIEW

- ③  $m\angle 1 = 65$   
 $m\angle 2 = 115$   
 $m\angle 3 = 115$   
 $m\angle 4 = 65$   
 $m\angle 5 = 65$   
 $m\angle 6 = 50$   
 $m\angle 7 = 65$   
 $m\angle 8 = 65$   
 $m\angle 9 = 50$   
 $m\angle 10 = 90$   
 $m\angle 11 = 40$   
 $m\angle 12 = 50$   
 $m\angle 13 = 90$

- ④  $m\angle 1 = 118$   
 $m\angle 2 = 62$   
 $m\angle 3 = 118$   
 $m\angle 4 = 62$   
 $m\angle 5 \rightarrow$   
 $m\angle 12 \text{ CBO}$   
 $m\angle 13 = 118$   
 $m\angle 14 = 62$   
 $m\angle 15 = 118$   
 $m\angle 16 = 62$

- ⑤  $m\angle 1 = 45$   
 $m\angle 2 = 103$   
 $m\angle 3 = 77$   
 $m\angle 4 = 103$   
 $m\angle 5 = 38\frac{1}{2}$   
 $m\angle 6 = 38\frac{1}{2}$   
 $m\angle 7 = 141\frac{1}{2}$

- ⑥  $m\angle 1 = 35$   
 $m\angle 2 = 70$   
 $m\angle 3 = 70$   
 $m\angle 4 = 70$   
 $m\angle 5 = 40$   
 $m\angle 6 = 140$   
 $m\angle 7 = 110$   
 $m\angle 8 = 40$   
 $m\angle 9 = 75$   
 $m\angle 10 = 115$

9.  $\triangle FKG \sim \triangle FJH$   
 $AA \sim$   $JH = 16.2$

10.  $\triangle J L H \sim \triangle M L M$  SAS  
 $JH = 10.4$

11.  $x = 8$   $RS = 40$     12.  $x = 6$   $RS = 17$     13.  $x = 7$   $y = 5$   $AB = 19$

14.  $x = 11$   $y = 13\frac{1}{2}$   $z = 9$     15.  $P = 20\sqrt{3}$     16.  $A = 108\sqrt{3}$     17.  $x = 5\sqrt{2}$

18.  $A = 98$     19.  $133.16 \text{ ft}$     20. horizontal distance =  $3732.05 \text{ m}$   
 distance through air =  $3863.90 \text{ m}$

21.  $x = 12$     22.  $x = 15$     23.  $m\angle 1 = 22\frac{1}{2}$   $m\angle 2 = 45\frac{1}{2}$   $m\angle 3 = 68$

24.  $m\angle 1 = 17\frac{1}{2}$   $m\angle 2 = 50$   $m\angle 3 = 67\frac{1}{2}$     25.  $(x-4)^2 + (y+3)^2 = 16$

26. center  $(6, -2)$   $r = 5$     27.  $y = \frac{2}{5}x + 6$     28.  $y = -\frac{5}{3}x + 6$

29.  $\overline{AB} = \sqrt{82}$   $\overline{CD} = \sqrt{82}$

30. NOT A RHOMBUS SINCE NOT ALL 4  
 SIDES ARE  $\overline{AB} = 4$   $\overline{BC} = 4$   $\overline{AD} = \sqrt{17}$   
 $\overline{BC} = \sqrt{17}$

31.  $\overline{AB} = 2\sqrt{41}$   $\overline{BC} = 2\sqrt{41}$ ;  $AC = 16$   $C^2 < 2a^2 + b^2$  SINCE  $256 < 328$

32.  $DE = 6.96$   $AC = \sqrt{194} = 13.93$  WHICH IS JUST ABOUT 2 TIMES  $DE$

$m\angle DE = \frac{13}{5}$   $m\angle AC = \frac{13}{5}$

33. IN CLASS

34. 9 UNITS DOWN  
 AND 4 UNITS TO  
 RIGHT

35. IN CLASS

36. IN CLASS