Chapter 7-8 Cumulative Review Answers

1. \[ \text{Angle of } 540^\circ - 180^\circ = 360^\circ = \text{C} \]

2. \[ \log A, x = 180 - 80 - 65 = 35^\circ \]
   \[ \log B, x = 180 - 30 - 130 = 20^\circ \]
   \[ \log C, x = 80 + 75 = 155^\circ \]
   \[ \log D, x = 360 - 80 - 130 = 150^\circ \]
   \[ \Rightarrow \text{D} \]

3. \[ \text{Different lengths } \Rightarrow \text{D} \]

4. \[ \Rightarrow \text{parallelogram} \]

5. \[ \frac{43 + 27}{2} = 35 \text{ cm } \Rightarrow \text{B} \]

6. \[ \text{Max area } \rightarrow \text{square} \]
   \[ L = \frac{300}{4} = 75 \text{ m} \]
   \[ A = L \times W = 75 \text{ m} \times 75 \text{ m} \]
   \[ \Rightarrow \text{C} \]

7. \[ \text{Area } = 120 \times 120 - 4 \times (\frac{1}{2}) \times (35) \times (35.7) \]
   \[ = 14400 - 4 \times 2499.9 \]
   \[ = 11900.1 \text{ cm}^2 \]
   \[ \Rightarrow \text{B} \]

8. \[ \text{Vol} = \frac{4}{3} \pi r^3 \]
   \[ 117 = \frac{4}{3} \pi (r)^3 \]
   \[ 117 \div \frac{4}{3} \pi = \pi r^3 \]
   \[ 87.93 = \pi r^3 \]
   \[ \frac{87.93}{\pi} = r^3 \]
   \[ 3 \\sqrt{27.93} = r = 3.03 \text{ cm } \Rightarrow \text{A} \]

9. \[ \text{Vol} = \frac{1}{3} (A_{\text{base}})(h) \]
   \[ = \frac{1}{3} (\frac{1}{2} \times 3 \times 2.6)(18) \]
   \[ = 23 \times 4 \text{ cm}^3 \]
   \[ \Rightarrow \text{A} \]
10. \[ \text{sum} = (n-2) \times 180 \]
\[
\frac{1800}{180} = (n-2) \times 180
\]
10 = n - 2
10 + 2 = n
12 = n \Rightarrow D

11. Convex \rightarrow \text{Vertices "point" out, not in}
\Rightarrow C

12. Ext angle = \frac{360}{n}
\[
\frac{360}{12} = 30 \Rightarrow A
\]

13. Int + Ext = 180° \Rightarrow B

14. \Rightarrow \text{square} \Rightarrow D

15. Conjecture = Theory/idea
Counterexample = an example that disproves a theory
\Rightarrow \text{only need one} \Rightarrow A

16. A
C
D

17. Centroid of a quadrilateral is point where the bimedians cross \Rightarrow B

18. \text{Max area \rightarrow square}
L = \frac{100}{4} = 25 \text{m}
A = (w) = 25 \times 25
= 625 \text{m}^2 \Rightarrow C

19. \text{A shaded} = A_{\Delta} - A_{O}
\[
\Delta_{\Delta} = \frac{1}{2}bh \quad \Delta_{O} = \frac{\pi r^2}{2}
\]
\[
= \frac{1}{2}(12)(10) \quad = \frac{\pi (3)^2}{2}
\]
= 60 cm²
= 14.14 cm²
\[
A_{\text{shaded}} = 60 - 14.14
= 45.86 \text{cm}^2 \Rightarrow B
\]

20. \text{V_{sphere}} = \frac{4}{3} \pi r^3 \quad \text{V_{cone}} = \frac{1}{3} \pi r^2 h
\]
\[
= \frac{4}{3} \pi (5)^3 \quad = \frac{1}{3} \pi (5)^2 (6)
\]
\[
= 523.6 \text{cm}^3 \quad = 261.8 \text{cm}^3
\]
\text{V_{cube}} = l^3 \quad \text{V_{pyramid}} = \frac{1}{3} l^2 h
\]
\[
= (10)^3 \quad = \frac{1}{3} (10)^2 (10)
\]
\[
= 1000 \text{cm}^3 \quad = 333.3 \text{cm}^3
\]
least volume = cone \Rightarrow C

21. least surface area of a cylinder when diameter equals height \Rightarrow C
Also \Rightarrow B