Measurement & Geometry Assessment
ACMMG242 (A)

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Teachers Teaching with Technology™
Professional Development from Texas Instruments

Name: _____

Score: _____

Teacher: _____

Assessment   Navigator   Student   30 min

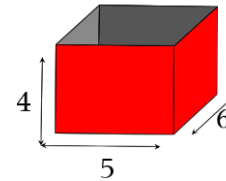**Q.1.** A rectangular box 8 cm x 12 cm x 5 cm has volume:

a) 25 cm   b) 392 cm^2 c) 480 cm^2 d) 960 cm^2 e) None of these

Q.2. A rectangular box 7 cm x 8 cm x 5 cm has total surface area:

a) 30 cm   b) 131 cm^2 c) 262 cm^2 d) 280 cm^2 e) 280 cm^3
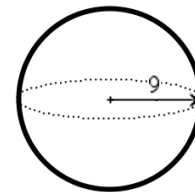
Q.3. A rectangular box (shown below) without a lid measuring 4 cm x 5 cm x 6 cm has a total external surface area:

a) 15 cm   b) 118 cm^2 c) 120 cm^2
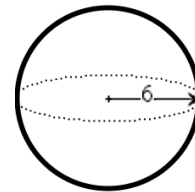
d) 148 cm^2 e) 240 cm^2

Q.4. A sphere of radius 9 cm has volume:

a) 254.5 cm^3 b) 1017.9 cm^2 c) 729 cm^3

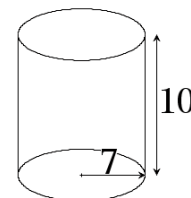d) 2290.2 cm^3 e) 3053.6 cm^3

Q.5. A sphere of radius 6 cm has surface area:

a) 37.7 cm^2 b) 36 cm^2 c) 113.1 cm^2

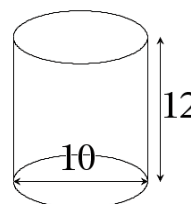d) 452.4 cm^2 e) 904.8 cm^2

Q.6. A cylinder radius 7 cm and height 10 cm has volume:

a) 70 cm^3 b) 219.9 cm^3 c) 429.8 cm^3

d) 490 cm^3 e) 1539.4 cm^3

Q.7. A cylinder of diameter 10cm and height 12cm has surface area:

a) 455.5 cm^2 b) 534.1 cm^2 c) 754.0 cm^2

d) 1068.1 cm^2 e) 1382.3 cm^2

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Q.8.   Determine the volume of the shape below using the measurements provided.

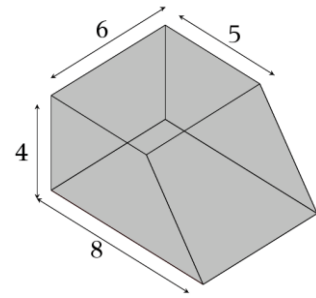**Volume of box:** $l \times w \times h = 6 \times 5 \times 4 = 120$ ✔

Volume of wedge: $\frac{1}{2} \times l \times w \times h = 6 \times 3 \times 4 = 36$ ✔

Total Volume: $120 + 36 = 156$

Q.9.   Determine the total surface area of the square based pyramid shown below using the measurements provided.

Area of base: $l \times w = 6 \times 6 = 36$ ✔

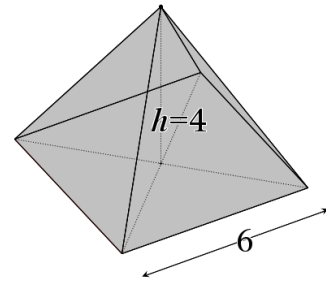**Calculate slant height:** $c = \sqrt{a^2 + b^2} = \sqrt{3^2 + 4^2}$

Area of triangular faces: $= 4 \times \left(\frac{1}{2} \times 6 \times 5\right) = 60$ ✔

Total Surface Area: $36 + 60 = 96$

Q.10.   The shape below consists of a square based pyramid on top of a box. Use the measurements provided to determine the total surface area.

Total Surface Area of exposed cube: $= 25 + 20 \times 4$ ✔

Calculate slant height: $c = \sqrt{a^2 + b^2} = \sqrt{3^2 + 2.5^2}$

Area of triangular faces: $= 4 \times \left(\frac{1}{2} \times 3.905 \times 5\right) = 39.051$ ✔

Total Surface Area: $= 105 + 39.051 = 144.051$

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