

Unit 24.1

1. a) rectangular prism; edges: AB, BC, CD, FA, GA, HB, FC, EF, GH, HD, DE, EG  
faces: ABCF, CFED, DEGH, ABHG, AFEG, BHDC; vertices: A, B, C, D, E, F, G, H  
b) triangular prism; edges: PQ, QR, RZ, XY, YZ, PR, ZX, PX, QY, RZ  
faces: PQR, XYZ, PQYX, QRZY, PRZX; vertices: P, Q, R, X, Y, Z  
c) hexagonal pyramid; edges: OA, OB, OC, OD, OE, OF, AB, BC, CD, DE, EF, FA  
faces: AOB, BOC, COD, DOE, EOF, FOA, ABCDEFA; vertices: O, A, B, C, D, E, F  
d) pentagonal prism  
edges: PQ, QR, RS, ST, TP, AB, BC, CD, DE, EA, TA, SB, RC, QD, PE  
faces: PQRST, ABCDE, ABST, BCRS, CRQS, DQPE, EPTA  
e) cube; edges: AB, QP, XY, WZ, YZ, XW, PZ, QW, AX, BY, PB, AQ  
faces: ABPQ, XYZW, BYZP, AXWQ; vertices: A, B, Y, Z, W, X, P, Q  
f) triangular pyramid; edges: AL, AM, AP, MP, ML, LP  
faces: AMP, AML, MPL; vertices: A, M, P, L
2. a) hexagonal pyramid                      b) rectangular prism                      c) cone  
d) pentagonal prism                      3. a) cylinder                      b) hexagonal pyramid  
c) cone                      4. hexagonal prism: 8, 12, 20, 18; rectangular prism: 6, 8, 14, 12;  
rectangular pyramid: 5, 5, 10, 8                      5. 2                      6. 6                      7. 12, 7, 7
8. a

Unit 24.2

1. a) 150 sq in    b) 258 sq ft    c) 175 sq ft    d) 1017.36 m<sup>2</sup>                      e) 792 sq in  
f) 64 sq yd    2. 382 m<sup>2</sup>    3. 408.2 sq ft                      4. 176 cm<sup>2</sup>
5. b                      6. 6631.68 sq ft                      7. cylinder

Unit 24.3

1. a) 125 ft<sup>3</sup>    b) 120 in<sup>3</sup>    c) 108 cm<sup>3</sup>    d) 210 m<sup>2</sup>    e) 240 yd<sup>3</sup>    f) 625 cm<sup>3</sup>
2. a) 160 m<sup>3</sup>    b) 6 m    c) 5 cm    d) 4 ft    e) 550 yd<sup>3</sup>    f) 405 ft<sup>3</sup>
4. yes    5. b    6. no    7. 60 ft<sup>3</sup>

Unit 24.4

1. a) 198 ft<sup>3</sup>    b) 168 m<sup>3</sup>    c) 1,848 yd<sup>3</sup>                      d) 150 m<sup>3</sup>  
e) 10851.84 yd<sup>3</sup>                      f) 742.5 m<sup>3</sup>                      2. i) 120 cm<sup>3</sup>    ii) 60 cm<sup>3</sup>
3. a) 4 cm    b) 10 cm<sup>2</sup>    4. 98.91 m<sup>3</sup>    5. 18 yd<sup>2</sup>    6. 276.32 ft<sup>3</sup>
7. a                      8. 336 ft<sup>3</sup>

Unit 24.5

1. a) 22 m<sup>2</sup>, 6 m<sup>3</sup>                      b) 24 ft<sup>2</sup>, 8 ft<sup>3</sup>                      c) 30 m<sup>2</sup>, 7 m<sup>3</sup>  
d) 38 in<sup>2</sup>, 12 in<sup>3</sup>                      e) 72 ft<sup>2</sup>, 22 ft<sup>3</sup>                      f) 78 m<sup>2</sup>, 18 m<sup>3</sup>
3. d

Unit 24.6

1. 16, 10, 24    2. 9, 21, 14; 1, 7, 6                      3. a) hexagonal pyramid    b) cylinder
4. 24,400 m<sup>2</sup>    5. a) 2,350 ft<sup>2</sup>                      b) 514 cm<sup>2</sup>    6. a) 399 yd<sup>3</sup>    b) 2,046 in<sup>3</sup>
7. 35 m<sup>3</sup>    8. a) 405 yd<sup>3</sup>                      b) 7359.375 m<sup>3</sup>
9. 0.25 cube feet