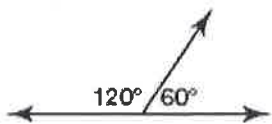


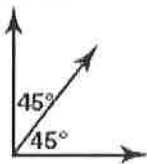
Geometry Final Exam Review 2019
Answer Section

1. ANS:



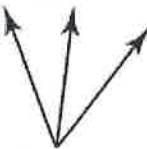
PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice
KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

2. ANS:



PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice
KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

3. ANS:



PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice
KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

4. ANS:

a statement that is accepted without proof

PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice
KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

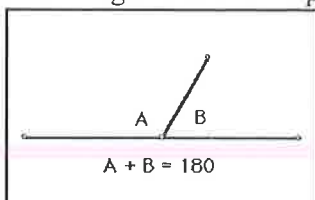
5. ANS:

a statement that can be proven

PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice
KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

6. ANS:

If two angles are a linear pair, then the angles are supplementary.



PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

7. ANS:

If point B is on AC and between points A and C then $AB + BC = AC$.

Segment Addition Postulate

$$AB + BC = AC$$

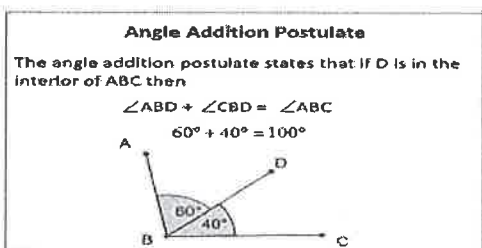
$$4\text{cm} + 10\text{cm} = 14\text{cm}$$

PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

8. ANS:

If point D lies in the interior of $\angle ABC$, then $m\angle ABD + m\angle DBC = m\angle ABC$.



PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

9. ANS:

$$x = 180^\circ - 107^\circ = 73^\circ$$

PTS: 1 REF: 2.2 NAT: G.CO.9 TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

10. ANS:

$$x = 90^\circ - 34^\circ = 56^\circ$$

PTS: 1

REF: 2.2

NAT: G.CO.9

TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

11. ANS:

$$x = 90^\circ - 6^\circ = 84^\circ$$

PTS: 1

REF: 2.2

NAT: G.CO.9

TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

12. ANS:

$$x + 2x = 180$$

$$3x = 180$$

$$x = 60$$

The measure of the angle is 60° and the measure of the supplement is 120° .

PTS: 1

REF: 2.2

NAT: G.CO.9

TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

13. ANS:

$$x + 0.2x = 90$$

$$1.2x = 90$$

$$x = 75$$

The measure of the angle is 75° and the measure of the complement is 15° .

PTS: 1

REF: 2.2

NAT: G.CO.9

TOP: Skills Practice

KEY: supplementary angles | complementary angles | adjacent angles | linear pairs | vertical angles | postulate | theorem | Euclidean geometry | Linear Pair Postulate | Segment Addition Postulate | Angle Addition Postulate

14. ANS:

Subtraction Property of Equality

PTS: 1

REF: 2.3

NAT: G.CO.9

TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

15. ANS:

Addition Property of Equality

PTS: 1 REF: 2.3 NAT: G.CO.9 TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

16. ANS:

Reflexive Property

PTS: 1 REF: 2.3 NAT: G.CO.9 TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

17. ANS:

Transitive Property

PTS: 1 REF: 2.3 NAT: G.CO.9 TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

18. ANS:

Substitution Property

PTS: 1 REF: 2.3 NAT: G.CO.9 TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

19. ANS:

Reflexive Property

PTS: 1 REF: 2.3 NAT: G.CO.9 TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

20. ANS:

Subtraction Property of Equality

PTS: 1 REF: 2.3 NAT: G.CO.9 TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

21. ANS:

Substitution Property

PTS: 1

REF: 2.3

NAT: G.CO.9

TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

22. ANS:

Addition Property of Equality

PTS: 1

REF: 2.3

NAT: G.CO.9

TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

23. ANS:

Reflexive Property

PTS: 1

REF: 2.3

NAT: G.CO.9

TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

24. ANS:

Substitution Property

PTS: 1

REF: 2.3

NAT: G.CO.9

TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

25. ANS:

Transitive Property

PTS: 1

REF: 2.3

NAT: G.CO.9

TOP: Skills Practice

KEY: Additional Property of Equality | Subtraction Property of Equality | Reflexive Property | Substitution Property | Transitive Property | flow chart proof | two-column proof | paragraph proof | construction proof | Right Angle Congruence Theorem | Congruent Supplement Theorem | Congruent Complement Theorem | Vertical Angle Theorem

26. ANS:

 $\angle 1 \cong \angle 5, \angle 2 \cong \angle 6, \angle 3 \cong \angle 7, \angle 4 \cong \angle 8$

PTS: 1

REF: 2.4

NAT: G.CO.9

TOP: Skills Practice

KEY: Corresponding Angle Postulate | conjecture | Alternate Interior Angle Theorem | Alternate Exterior Angle Theorem | Same-Side Interior Angle Theorem | Same-Side Exterior Angle Theorem

27. ANS:

Same-side interior angles are congruent.

PTS: 1

REF: 2.4

NAT: G.CO.9

TOP: Skills Practice

KEY: Corresponding Angle Postulate | conjecture | Alternate Interior Angle Theorem | Alternate Exterior Angle Theorem | Same-Side Interior Angle Theorem | Same-Side Exterior Angle Theorem

28. ANS:

Alternate interior angles are congruent.

PTS: 1

REF: 2.4

NAT: G.CO.9

TOP: Skills Practice

KEY: Corresponding Angle Postulate | conjecture | Alternate Interior Angle Theorem | Alternate Exterior Angle Theorem | Same-Side Interior Angle Theorem | Same-Side Exterior Angle Theorem

29. ANS:

Alternate exterior angles are congruent.

PTS: 1

REF: 2.4

NAT: G.CO.9

TOP: Skills Practice

KEY: Corresponding Angle Postulate | conjecture | Alternate Interior Angle Theorem | Alternate Exterior Angle Theorem | Same-Side Interior Angle Theorem | Same-Side Exterior Angle Theorem

30. ANS:

The triangles are congruent by SAS.

$$\overline{PQ} \cong \overline{ST}$$

$$\angle QPR \cong \angle TSW$$

$$\overline{PR} \cong \overline{SW}$$

PTS: 1

REF: 7.4

NAT: G.CO.6 | G.CO.7 | G.CO.8 | G.CO.10 | G.CO.12

TOP: Skills Practice

KEY: Side-Angle-Side Congruent Theorem

31. ANS:

The triangles are congruent by SSS.

$$\overline{AB} \cong \overline{ED}$$

$$\overline{BC} \cong \overline{DC}$$

$$\overline{AC} \cong \overline{EC}$$

PTS: 1

REF: 7.4

NAT: G.CO.6 | G.CO.7 | G.CO.8 | G.CO.10 | G.CO.12

TOP: Skills Practice

KEY: Side-Angle-Side Congruent Theorem

32. ANS:

The triangles are congruent by AAS.

$$\angle DGF \cong \angle JTM$$

$$\angle DFG \cong \angle JMT$$

$$\overline{DF} \cong \overline{JM}$$

PTS: 1 REF: 7.6

TOP: Skills Practice

NAT: G.CO.6 | G.CO.7 | G.CO.8 | G.CO.10 | G.CO.12

KEY: Angle-Angle-Side Congruence Theorem

33. ANS:

The triangles are congruent by ASA.

$$\angle RST \cong \angle WXY$$

$$\overline{ST} \cong \overline{XY}$$

$$\angle RTS \cong \angle WYX$$

PTS: 1 REF: 7.6

TOP: Skills Practice

NAT: G.CO.6 | G.CO.7 | G.CO.8 | G.CO.10 | G.CO.12

KEY: Angle-Angle-Side Congruence Theorem

34. ANS:

The scale factor is 3.

Each coordinate of the image is three times the corresponding coordinate of the pre-image.

 $\triangle DEF$ has vertex coordinates $D(1, 5)$, $E(1, 2)$, $F(3, 2)$. $\triangle D'E'F'$ has vertex coordinates $D'(3, 15)$, $E'(3, 6)$, $F'(9, 6)$.

PTS: 1 REF: 6.1

TOP: Skills Practice

NAT: G.SRT.1.a | G.SRT.1.B | G.SRT.2 | G.SRT.5 | G.MG.1

KEY: similar triangles

35. ANS:

The triangles are congruent by the Angle-Angle Similarity Theorem. Two corresponding angles are congruent.

PTS: 1 REF: 6.2

TOP: Skills Practice

NAT: G.SRT.3 | G.SRT.5

KEY: Angle-Angle Similarity Theorem | Side-Side-Side Similarity Theorem | included angle | included side | Side-Angle-Side Similarity Theorem

36. ANS:

Outcomes	Blue Socks	White Socks	Green Socks	Brown Socks
Probability	$\frac{3}{10}$, or 0.3	$\frac{1}{5}$, or 0.2	$\frac{2}{5}$, or 0.4	$\frac{1}{10}$, or 0.1

This is a non-uniform probability model.

PTS: 1 REF: 14.1 NAT: S.CP.1 TOP: Skills Practice
 KEY: outcome | sample space | event | probability | probability model | uniform probability model | complement of an event | non-uniform probability model

37. ANS:

Outcomes	Cube	Cylinder	Pyramid
Probability	$\frac{1}{3}$, or 0.33	$\frac{1}{3}$, or 0.33	$\frac{1}{3}$, or 0.33

This is a uniform probability model.

PTS: 1 REF: 14.1 NAT: S.CP.1 TOP: Skills Practice
 KEY: outcome | sample space | event | probability | probability model | uniform probability model | complement of an event | non-uniform probability model

38. ANS:

$$P(5) = \frac{2}{12}, \text{ or } \frac{1}{6}$$

$$P(\text{not a } 5) = \frac{10}{12}, \text{ or } \frac{5}{6}$$

PTS: 1 REF: 14.1 NAT: S.CP.1 TOP: Skills Practice
 KEY: outcome | sample space | event | probability | probability model | uniform probability model | complement of an event | non-uniform probability model

39. ANS: disjoint sets

PTS: 1 REF: 14.2 NAT: S.CP.1 TOP: Skills Practice
 KEY: tree diagram | organized list | set | element | disjoint sets | intersecting sets | independent events | dependent events | Counting Principle

40. ANS: intersecting sets

PTS: 1 REF: 14.2 NAT: S.CP.1 TOP: Skills Practice
 KEY: tree diagram | organized list | set | element | disjoint sets | intersecting sets | independent events | dependent events | Counting Principle

41. ANS: independent events

PTS: 1 REF: 14.2 NAT: S.CP.1 TOP: Skills Practice
KEY: tree diagram | organized list | set | element | disjoint sets | intersecting sets | independent events | dependent events | Counting Principle

42. ANS: dependent events

PTS: 1 REF: 14.2 NAT: S.CP.1 TOP: Skills Practice
KEY: tree diagram | organized list | set | element | disjoint sets | intersecting sets | independent events | dependent events | Counting Principle

43. ANS:

There are 36 possible lunches.

$$4 \cdot 3 \cdot 3 = 36$$

PTS: 1 REF: 14.2 NAT: S.CP.1 TOP: Skills Practice
KEY: tree diagram | organized list | set | element | disjoint sets | intersecting sets | independent events | dependent events | Counting Principle

44. ANS:

The probability of choosing the same student 5 days in a row is $\frac{1}{7,962,624}$.

I calculated the answer by using the Rule of Compound Probability involving "and."

The probability of choosing the one particular student is $\frac{1}{24}$.

Let S represent the probability of choosing one particular student.

$$P(S) = \frac{1}{24}$$

$$P(S, S, S, S, \text{ and } S) = P(S) \cdot P(S) \cdot P(S) \cdot P(S) \cdot P(S)$$

$$= \frac{1}{24} \cdot \frac{1}{24} \cdot \frac{1}{24} \cdot \frac{1}{24} \cdot \frac{1}{24}$$

$$= \frac{1}{7,962,624}$$

when putting
it in the
calculator,
do 24^5

or 24^5 as denomi-
nator
put 1 as
numerator

PTS: 1 REF: 14.3 NAT: S.CP.2 | S.CP.8
TOP: Skills Practice
KEY: compound event | Rule of Compound Probability involving "and"

45. ANS:

The probability that the first two spinners land on 1 is $\frac{1}{24}$.

I calculated the answer by using the Rule of Compound Probability involving “and.”

The probability of the 1st spinner landing on 1 is $\frac{1}{6}$.

$$P(1 \text{ on 1st spinner}) = \frac{1}{6}$$

The probability of the 2nd spinner landing on 1 is $\frac{1}{4}$.

$$P(1 \text{ on 2nd spinner}) = \frac{1}{4}$$

The probability of the 3rd spinner landing on any number is $\frac{12}{12}$, or 1.

$$P(\text{any number on 3rd spinner}) = 1$$

I don't have to include the probability of the 3rd spin in my calculation because multiplying by 1 will not affect the final answer.

$$P(1 \text{ on 1st spinner and 1 on 2nd spinner}) = P(1 \text{ on 1st spinner}) \cdot P(1 \text{ on 2nd spinner})$$

$$= \frac{1}{6} \cdot \frac{1}{4}$$

$$= \frac{1}{24}$$

PTS: 1

REF: 14.3

NAT: S.CP.2 | S.CP.8

TOP: Skills Practice

KEY: compound event | Rule of Compound Probability involving “and”

46. ANS:

The probability of choosing two marbles with stripes is $\frac{7}{34}$.

I calculated the answer by using the Rule of Compound Probability involving “and.”

The probability of choosing a marble with stripes from the 1st set is $\frac{7}{17}$.

Let A represent the probability of choosing a marble with stripes from the 1st set.

$$P(A) = \frac{7}{17}$$

The probability of choosing a marble with stripes from the 2nd set is $\frac{9}{18}$, or $\frac{1}{2}$.

Let B represent the probability of choosing a marble with stripes from the 2nd set.

$$P(B) = \frac{1}{2}$$

$$P(A \text{ and } B) = P(A) \cdot P(B)$$

$$= \frac{7}{17} \cdot \frac{1}{2}$$

$$= \frac{7}{34}$$

PTS: 1

REF: 14.3

NAT: S.CP.2 | S.CP.8

TOP: Skills Practice

KEY: compound event | Rule of Compound Probability involving “and”

47. ANS:

The probability of choosing a pyramid from the shaded set or a cylinder from the unshaded set is $\frac{79}{169}$.

I used the Addition Rule for Probability to determine the answer.

Let pyramid represent choosing a pyramid from the shaded set.

Let cylinder represent choosing a pyramid from the shaded set.

$$P(\text{pyramid and cylinder}) = P(\text{pyramid}) + P(\text{cylinder}) - P(\text{pyramid and cylinder})$$

$$= \frac{3}{13} + \frac{4}{13} - \left(\frac{3}{13}\right)\left(\frac{4}{13}\right)$$

$$= \frac{3}{13} + \frac{4}{13} + \frac{12}{169}$$

$$= \frac{39}{169} + \frac{52}{169} - \frac{12}{169}$$

$$= \frac{79}{169}$$

PTS: 1

REF: 14.4

NAT: S.CP.7

TOP: Skills Practice

KEY: Addition Rule for Probability

48. ANS:

The probability of choosing a white ball first or a shaded ball second is $\frac{11}{15}$.

$$P(\text{white 1st or shaded 2nd}) = P(\text{white 1st}) + P(\text{shaded 2nd}) - P(\text{white 1st and shaded 2nd})$$

$$= \frac{7}{15} + \frac{8}{15} - \left(\frac{7}{15}\right)\left(\frac{8}{14}\right)$$

$$= \frac{7}{15} + \frac{8}{15} - \frac{56}{210}$$

$$= \frac{98}{210} + \frac{112}{210} - \frac{56}{210}$$

$$= \frac{154}{210}$$

$$= \frac{11}{15}$$

PTS: 1

REF: 14.5

NAT: S.CP.2 | S.CP.8

TOP: Skills Practice

KEY: S.CP.2 | S.CP.8

49. ANS:

There are 358,800 possible codes.

$${}_{26}P_4 = 26 \times 25 \times 24 \times 23 = 358,800$$

PTS: 1

REF: 15.3

NAT: S.CP.9

TOP: Skills Practice

KEY: factorial | permutation | circular permutation | combination

50. ANS:

There medals can be won in 1320 ways.

$${}_{12}P_3 = 12 \times 11 \times 10 = 1320$$

PTS: 1

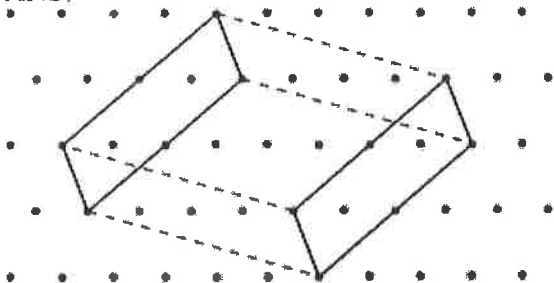
REF: 15.3

NAT: S.CP.9

TOP: Skills Practice

KEY: factorial | permutation | circular permutation | combination

51. ANS:



rectangle; rectangular prism

PTS: 1 REF: 4.2 NAT: G.GMD.4 | G.MG.3

TOP: Skills Practice

KEY: isometric paper | right triangular prism | oblique triangular prism | right rectangular prism | oblique rectangular prism | right cylinder | oblique cylinder

52. ANS:

pentagonal pyramid

PTS: 1 REF: 4.2 NAT: G.GMD.4 | G.MG.3

TOP: Skills Practice

KEY: isometric paper | right triangular prism | oblique triangular prism | right rectangular prism | oblique rectangular prism | right cylinder | oblique cylinder

53. ANS:

hexagonal pyramid

PTS: 1 REF: 4.2 NAT: G.GMD.4 | G.MG.3

TOP: Skills Practice

KEY: isometric paper | right triangular prism | oblique triangular prism | right rectangular prism | oblique rectangular prism | right cylinder | oblique cylinder

54. ANS:

The lengths of the sides of the triangle are the same as the lengths of the sides of the base of the triangular pyramid. The triangular pyramid was made by stacking similar triangles.

PTS: 1 REF: 4.2 NAT: G.GMD.4 | G.MG.3

TOP: Skills Practice

KEY: isometric paper | right triangular prism | oblique triangular prism | right rectangular prism | oblique rectangular prism | right cylinder | oblique cylinder

55. ANS:

$$V = \frac{1}{3} Bh$$

$$= \frac{1}{3} \left(\frac{1}{2} \right) (8)(6)(5)$$

$$= 40 \text{ cubic feet}$$

PTS: 1 REF: 4.6 NAT: G.GMD.3 | G.MG.1

TOP: Skills Practice

56. ANS:

$$\begin{aligned}
 V &= \frac{1}{3} Bh \\
 &= \frac{1}{3} (7)(4)(6) \\
 &= 56 \text{ cubic meters}
 \end{aligned}$$

PTS: 1 REF: 4.6

NAT: G.GMD.3 | G.MG.1

TOP: Skills Practice

57. ANS:

$$\begin{aligned}
 V &= \pi r^2 h \\
 &= \pi \left(\frac{22}{2} \right)^2 (30) \\
 &= 3630\pi \\
 &\approx 11398.2 \text{ cubic yards}
 \end{aligned}$$

PTS: 1 REF: 4.6

NAT: G.GMD.3 | G.MG.1

TOP: Skills Practice

58. ANS:

$$\begin{aligned}
 V &= \frac{1}{3} \pi r^2 h \\
 &= \frac{1}{3} \pi (20)^2 (12) \\
 &= 1600\pi \\
 &\approx 5024 \text{ cubic meters}
 \end{aligned}$$

PTS: 1 REF: 4.6

NAT: G.GMD.3 | G.MG.1

TOP: Skills Practice

59. ANS:

$$\begin{aligned}
 V &= \frac{4}{3} \pi r^3 \\
 &= \frac{4}{3} \pi (5)^3 \\
 &= \frac{500}{3} \pi \\
 &\approx 523.33 \text{ cubic centimeters}
 \end{aligned}$$

PTS: 1 REF: 4.6

NAT: G.GMD.3 | G.MG.1

TOP: Skills Practice

60. ANS:

$${}_{25}C_4 = \frac{25!}{21!4!} = 12,650$$

PTS: 1 REF: 15.3 NAT: S.CP.9 TOP: Skills Practice
 KEY: factorial | permutation | circular permutation | combination

61. ANS:

$${}_{8}C_3 = \frac{8!}{5!3!} = 56$$

PTS: 1 REF: 15.3 NAT: S.CP.9 TOP: Skills Practice
 KEY: factorial | permutation | circular permutation | combination

62. ANS:

sphere

PTS: 1 REF: 4.1 NAT: G.GMD.4 TOP: Skills Practice
 KEY: disc

63. ANS:

cylinder

PTS: 1 REF: 4.1 NAT: G.GMD.4 TOP: Skills Practice
 KEY: disc

64. ANS:

cone

PTS: 1 REF: 4.1 NAT: G.GMD.4 TOP: Skills Practice
 KEY: disc

65. ANS:

2. Corresponding angle postulate
 7. Substitution

PTS: 1

