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PRAC ~ TIS Math ©

MENU HS Geometry

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Practice Units

	Item	Domain	TEKS
1.	Euclidian vs Spherical Geometry	1	G4A
2.	Conditional Statements	1	G4B
3.	Geometric Relationships	1	G5A
4.	Mid-Segments (Triangles)	1	G5A
5.	Angle Basics	1	G5A
6.	Basic Geometry	1	G5A
7.	Points and Lines Basics	1	G5A
8.	Triangle Basics	1	G5A
9.	Proving Conjectures	1	G5A; 4A
10.	Graphing 'x' and 'y' Equations	1	G5B
11.	Solving Angles and Bisectors	1	G5B
12.	Bisector and Angles	1	G5B, C
13.	Perpendicular Lines (Bi-sectors)	1, 2	G2A, B; 5B,C; 6A
14.	Distance/Addition Postulate	1, 2	G2B; 4A
15.	Graphing Parallel Lines	1, 2	G5B; 2C
16.	Graphing Perpendicular Intersections	1, 2	G5B; 2C

Practice Units (Cont'd)

More

	Item	Domain	TEKS
17.	Writing Equations Using Data Points	2	G2B
18.	Transversals/Parallels	2	G2B; 6A
19.	Graphing Translations	2	G3A, B
20.	Graphing Rotations	2	G3A, D
21.	Graphing Dilations	2	G3B
22.	Graphing Reflections	2	G3D
23.	Parallel Lines Proportionality I	3	G5A; 6A; 4A
24.	Parallel Lines Proportionality II	3	G5A; 6A; 4A
25.	Parallel Proofs	3	G5A; 6A
26.	Vertical/Supplementary Angles	3	G4A; 6A, C
27.	Sum of Angles and Sides	3	G5A; 6D
28.	Hypotenuse Leg	3	G5B
29.	Complimentary and Supplementary Angles	3	G6A
30.	Solving For Congruency (AAS, ASA)	3	G6B
31.	Solving For Congruency (SAS)	3	G6B
32.	Matching Exterior Angles	3	G6D
33.	Matching Interior Angles	3	G6D
34.	Matching the Sum of Interior Angles	3	G6D
35.	Parallel Lines and Proportional Segments	3	G6D; 4C
36.	Proving the Pythagorean Theorem	3	G6D
37.	Diagonals of a Rhombus	3	G6E; 5A
38.	Diagonals of a Square	3	G6E; 4A; 5A
39.	Diagonals of a Rectangle I	3	G6E; 4A; 5A
40.	Diagonals of a Rectangle II	3	G6E; 4A; 5A

Practice Units (Cont'd)

More

	Item	Domain	TEKS
41.	Calculating Proportions	3	G7A
42.	Calculating Distance on a Coordinate Plane	4	G2A, B
43.	Dilation of Circles	4	G7A
44.	Dilation of Rectangles	4	G7A
45.	Similar Triangles Scale Factor	4	G7a; 8A
46.	Similar Triangles Using Scale Factor I	4	G7a; 8A
47.	Similar Triangles Using Scale Factor II	4	G7a; 8A
48.	Similarity of Proportions	4	G8A
49.	Trigonometric Ratios	4	G9A
50.	Solving the Pythagorean Theorem	4	G9B
51.	Using Pythagorean Theorem	4	G9B
52.	Solving For Angles (30°, 60°, 90°)	4	G9B
53.	Solving For Angles (45°, 45°, 90°)	4	G9B
54.	Dilation of Shapes	5	G7A
55.	Dilation of Shapes II	5	G12B
56.	Cylinder Scale Factors	5	G10B, 11C
57.	Sphere and Half Sphere	5	G11C, D
58.	Perimeter and Area of Trapezoids	5	G11A, B
59.	Triangles Apothem	5	G11A; 9B
60.	Apothem Hexagons	5	G11B
61.	Area of Two Dimensional Figures	5	G11B
62.	Surface Area	5	G11C
63.	Geometric Volume I	5	G11D
64.	Geometric Volume II	5	G11D

Practice Units (Cont'd)

	Item	Domain	TEKS
65.	Geometric Volume III	5	G11D
66.	Chords I	5	G12A
67.	Chords II	5	G12A
68.	Chords and Arcs	5	G12A
69.	Chords, Secants, Tangents	5	G12A
70.	Circle Basics	5	G12A
71.	Secant and Tangent Segments	5	G12A
72.	Area Sector/Arc Length	5	G12B,C; 11B
73.	Combinations/Possibilities	6	G13A
74.	Factorials	6	G13A
75.	Permutations/Possibilities	6	G13A
76.	Probability With/Without Replacement	6	G13A
77.	Determining Probabilities (Sectors)	6	G13B, C
78.	Calculating Probabilities I	6	G13B
79.	Calculating Probabilities II	6	G13C
80.	Probabilities	6	G13D
81.	Predictions and Solutions	6	G13E

HS Geometry

Domain 5
Two and Three Dimensional Figures
Teacher Key

S/N 4224

Page Number	Unit Number	Answer	Domain	TX Codes
1.	1.	C	5	G11B
1.	2.	D	5	G11C
2.	3.	D	5	G11D
2.	4.	C	5	G11F
3.	5.	B	5	G11D
3.	6.	C	5	G11C
4.	7.	B	5	G11D

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Domain 5
Two and Three Dimensional Figures
REFERENCES

CIRCUMFERENCE

Circle	$C = 2\pi r$	or	$C = \pi d$

AREA

Triangle	$A = \frac{1}{2}bh$
Rectangle or parallelogram	$A = bh$
Rhombus	$A = \frac{1}{2}d_1d_2$
Trapezoid	$A = \frac{1}{2}(b_1 + b_2)h$
Regular polygon	$A = \frac{1}{2}aP$
Circle	$A = \pi r^2$

SURFACE AREA

	Lateral	Total
Prism	$S = Ph$	$S = Ph + 2B$
Pyramid	$S = \frac{1}{2}Pl$	$S = \frac{1}{2}Pl + B$
Cylinder	$S = 2\pi rh$	$S = 2\pi rh + 2\pi r^2$
Cone	$S = \pi rl$	$S = \pi rl + \pi r^2$
Sphere		$S = 4\pi r^2$

VOLUME

Prism or cylinder	$V = Bh$
Pyramid or cone	$V = \frac{1}{3}Bh$
Sphere	$V = \frac{4}{3}\pi r^3$

Domain 5
Two and Three Dimensional Figures
REFERENCES

COORDINATE GEOMETRY

Midpoint	$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$
Distance formula	$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
Slope of a line	$m = \frac{y_2 - y_1}{x_2 - x_1}$
Slope-intercept form of a linear equation	$y = mx + b$
Point-slope form of a linear equation	$y - y_1 = m(x - x_1)$
Standard form of a linear equation	$Ax + By = C$

RIGHT TRIANGLES

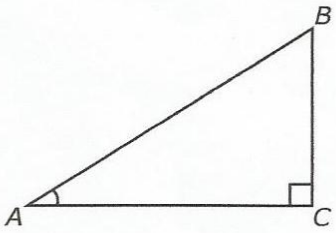
Pythagorean theorem $a^2 + b^2 = c^2$

Trigonometric ratios

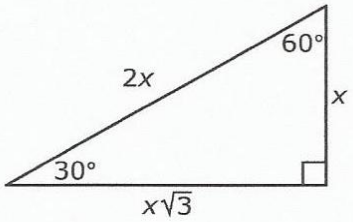
$\sin A = \frac{\text{opposite leg}}{\text{hypotenuse}}$

$\cos A = \frac{\text{adjacent leg}}{\text{hypotenuse}}$

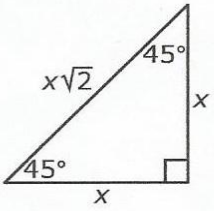
$\tan A = \frac{\text{opposite leg}}{\text{adjacent leg}}$



30° – 60° – 90° triangle



45° – 45° – 90° triangle



S/N 4224

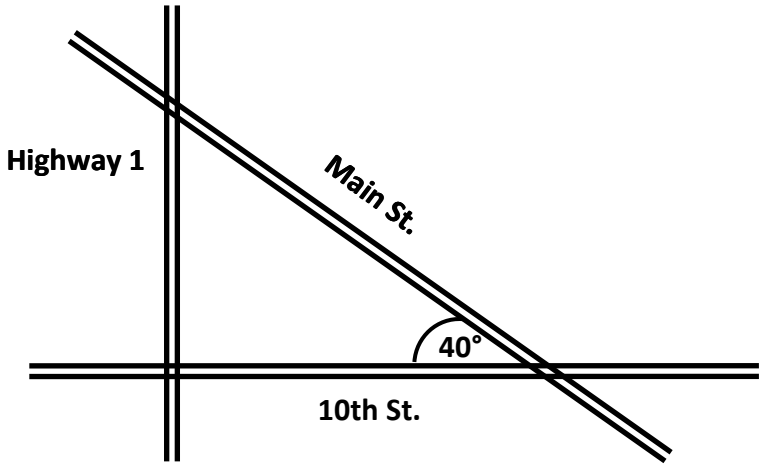
Begin

1. The top of a work table has a length of 6 ft and a width of 2 ft. A second work table is similar to the first work table. The top of the second work table is 3 ft wide. What is the length of the top of the second work table?

A	9 ft	C	9 ft
B	11 ft	D	12 ft

A B C D

2. On the map below, Main Street, 10th Street, and Highway 1 intersect to form a right triangle.



The distance between 10th Street and Main Street along Highway 1 is 9.4 miles. Which answer is the closest to the length of Main Street from Highway 1 to 10th Street?

A	15.6 mi	C	17.6 mi
B	12.6 mi	D	14.6 mi

A B C D

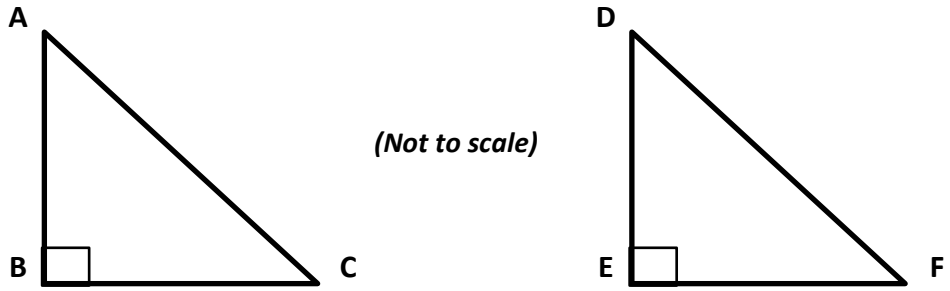
Continue to Page 2

HS Geometry **Hypotenuse Leg**

Name: **Date:**

S/N 338

Triangle ABC is congruent to triangle DEF. Determine the congruency statement and answer the ensuing questions.



Given: side AC = 4x + 3 and side DF = 3x + 6.

1. **What is the value of x?** _____

2. **The length of sides AC, DF =** _____

Given: side BC = 3y - 1, and side EF = y + 5.

3. **What is the value of y?** _____

4. **The length of sides BC, DE =** _____

5. **The two triangles are congruent by:** _____

6. **The m < E = 4a + 10** _____

7. **The length of sides side AB, DE =** _____

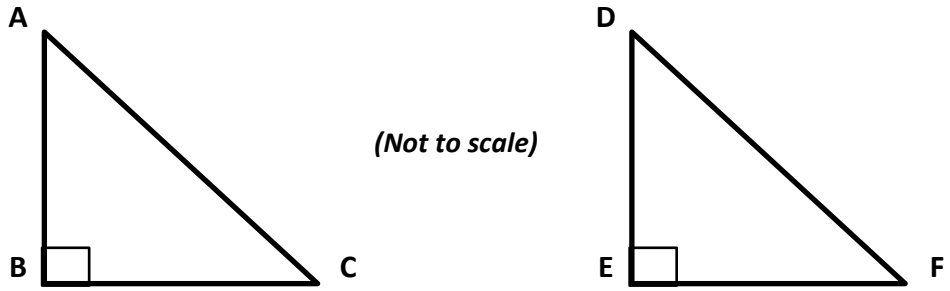
HS Geometry **Hypotenuse Leg**

Teacher Key

S/N 338

TEKS G5B
Domain 3

Triangle ABC is congruent to triangle DEF. Determine the congruency statement and answer the ensuing questions.



Given: side AC = 4x + 3 and side DF = 3x + 6.

1. **What is the value of x?** **3**

2. **The length of sides AC, DF =** **15 units**

Given: side BC = 3y - 1, and side EF = y + 5.

3. **What is the value of y?** **3**

4. **The length of sides BC, DE =** **8 units**

5. **The two triangles are congruent by:** **HL**

6. **The m < E = 4a + 10** **20**

7. **The length of sides side AB, DE =** **6 units**

HS Geometry **Math Preparation Review**

Teacher Key

S/N 5583

Page Number	Unit Number	Answer	Domain	TX Codes
1.	1.	A	3	G7C
1.	2.	B	4	G8D
2.	3.	B	2	G5D
3.	4.	C	4	G8D
3.	5.	C	2	G5D
4.	6.	A	4	G8A
5.	7.	C	4	G8C
5.	8.	A	4	G8B
6.	9.	D	5	G11B
6.	10.	B	2	G5A
7.	11.	A	5	G11C
8.	12.	C	4	G8A
9.	13.	A	1	G3A
9.	14.	B	5	G11D
10.	15.	C	1	G3B
11.	16.	A	4	G8C
12.	17.	D	5	G11F
12.	18.	A	5	G11D
13.	19.	C	4	G8D
13.	20.	A	3	G7B
14.	21.	D	1	G11C
15.	22.	B	2	G5D
16.	23.	C	5	G11C
17.	24.	D	3	G7A
18.	25.	C	3	G11C
18.	26.	B	4	G9D
19.	27.	B	2	G4H
20.	28.	A	1	G2B
21.	29.	B	2	G5A
21.	30.	B	5	G11D
22.	31.	D	1	G2A
23.	32.	C	3	G7C

Teacher Key

S/N 5583

Page Number	Unit Number	Answer	Domain	TX Codes
24.	33.	C	4	G10B
25.	34.	C	3	G7B
26.	35.	C	4	G10B
27.	36.	C	4	G10A
28.	37.	A	2	G5B
28.	38.	C	3	G7C
29.	39.	D	4	G8A
30.	40.	C	2	G5C
31.	41.	D	1	G3C
31.	42.	D	4	G9C
32.	43.	D	3	G7C
32.	44.	B	4	G9A
33.	45.	C	4	G9B; 12A
34.	46.	A	1	G5A
34.	47.	C	3	G6A
35.	48.	B	3	G7B
35.	49.	B	1	G6D
36.	50.	A	1	G3D
36.	51.	A	1	G6D
37.	52.	C	1	G6E

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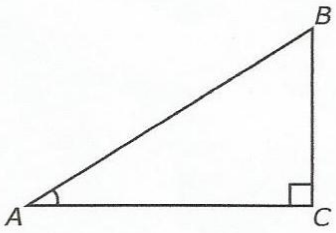
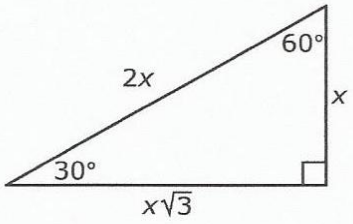
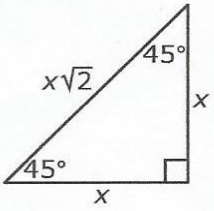


30° – 60° – 90° triangle

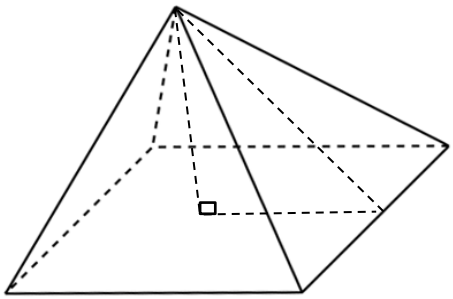


45° – 45° – 90° triangle



Continue

19. The pyramid below is 64 feet tall, and has a slant angle height of appoximately 86 feet. Each side of the square base measures 102 feet.



Which of the answers is closest to the lateral surface area of the pyramid?

A 35,088 ft^2

B 8,772 ft^2

C 17,544 ft^2

D 1,632 ft^2

A B C D

20. What is the equation of the line that is perpendicular to y = (1/2x) passing through points (4, - 5) ?

A y = (- 2x + 3)

B y = (1/2x - 4)

C y = (- 1/2x + 3)

D y = (- 2x + 4)

A B C D