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PRAC ~ TIS Math ©

MENU HS Geometry

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Domain 1 Review	Math Preparation Review	Domain 2 Review
Domain 3 Review	Domain 4 Review	Domain 5 Review

Practice Units

More

	Item	Domain	CC Codes
1.	Euclidian vs Spherical Geometry	1	G-GPE.3
2.	Conditional Statements	1	G-CO.1, .11
3.	Geometric Relationships	1	G-CO.9
4.	Mid-Segments (Triangles)	1	G-CO.10
5.	Angle Basics	1	G-CO.1
6.	Basic Geometry	1	G-CO.1
7.	Points and Line Basics	1	G-CO.1
8.	Triangle Basics	1	G-CO.10
9.	Proving Conjectures	1	G-CO.10
10.	Graphing 'x' and 'y' Equations	1	G-CO.1
11.	Solving Angles and Bisectors	1	G-CO.10
12.	Bisector and Angles	1	G-CO.7, .9
13.	Perpendicular Lines (Bi-sectors)	1, 2	G-CO.1, .9, .12; GPE.5
14.	Distance/Addition Postulate	1, 2	G-CO.9
15.	Graphing Parallel Lines	1, 2	G-CO.1, .12
16.	Graphing Perpendicular Intersections	1, 2	G-CO.1, .12

Practice Units (Cont'd)

More

	Item	Domain	CC Codes
17.	Writing Equations Using Data Points	2	G-CO.12
18.	Transversals/Parallels	2	G-CO.9
19.	Graphing Translations	2	G-CO.5
20.	Graphing Rotations	2	G-CO.3
21.	Graphing Dilations	2	G-SRT.1
22.	Graphing Reflections	2	G-CO.5
23.	Parallel Lines Proportionality I	3	G-CO.5, .12
24.	Parallel Lines Proportionality II	3	G-CO.5, .12
25.	Parallel Proofs	3	G-CO.9
26.	Vertical/Supplementary Angles	3	G-CO.9
27.	Sum of Angles and Sides	3	G-CO.9
28.	Hypotenuse Leg	3	G-CO.8
29.	Complimentary and Supplementary Angles	3	G-CO.9
30.	Solving For Congruency (AAS, ASA)	3	G-CO.8
31.	Solving For Congruency (SAS)	3	G-CO.8
32.	Matching Exterior Angles	3	G-CO.9
33.	Matching Interior Angles	3	G-CO.9
34.	Matching the Sum of Interior Angles	3	G-CO.9
35.	Parallel Lines and Proportional Segments	3	G-CO.10
36.	Proving the Pythagorean Theorem	3	G-SRT.4
37.	Diagonals of a Rhombus	3	G-CO.7, .9
38.	Diagonals of a Square	3	G-CO.7, .9
39.	Diagonals of a Rectangle I	3	G-CO.7, .9
40.	Diagonals of a Rectangle II	3	G-CO.7, .9

Practice Units (Cont'd)

More

	Item	Domain	CC Codes
41.	Calculating Proportions	3	G-SRT.2
42.	Calculating Distance on a Coordinate Plane	4	G-CO.1
43.	Dilation of Circles	4	G-SRT.1b
44.	Dilation of Rectangles	4	G-SRT.1b
45.	Similar Triangles Scale Factor	4	G-SRT.2, .3
46.	Similar Triangles Using Scale Factor I	4	G-SRT.1b, .5
47.	Similar Triangles Using Scale Factor II	4	G-SRT.1b, .5
48.	Similarity of Proportions	4	G-SRT.5
49.	Trigonometric Ratios	4	G-SRT.8
50.	Solving the Pythagorean Theorem	4	G-SRT.8
51.	Using Pythagorean Theorem	4	G-SRT.8
52.	Solving For Angles (30°, 60°, 90°)	4	G-SRT.2
53.	Solving For Angles (45°, 45°, 90°)	4	G-SRT.8
54.	Dilation of Shapes	5	G-SRT.1b
55.	Dilation of Shapes II	5	G-SRT.1b
56.	Cylinder Scale Factors	5	G-GMD.1
57.	Sphere and Half Sphere	5	G-GMD.1, .3
58.	Perimeter and Area of Trapezoids	5	G-SRT.8
59.	Triangles Apothem	5	G-SRT.8
60.	Apothem Hexagons	5	G-SRT.8
61.	Area of Two Dimensional Figures	5	G-SRT.6
62.	Surface Area	5	G-GMD.1
63.	Geometric Volume I	5	G-GMD.3
64.	Geometric Volume II	5	G-GMD.3

Practice Units (Cont'd)

	Item	Domain	CC Codes
65.	Geometric Volume III	5	G-GMD.3
66.	Chords I	5	G-C.2
67.	Chords II	5	G-C.2
68.	Chords and Arcs	5	G-C.2, .5
69.	Chords, Secants, Tangents	5	G-C.2, .4
70.	Circle Basics	5	G-C.2
71.	Secant and Tangent Segments	5	G-C.4
72.	Area Sector/Arc Length	5	G-C.2, .5

HS Geometry

Domain 2
Coordinate and Transformational Geometry
Teacher Key

S/N 3127

Page Number	Unit Number	Answer	Domain	CC Codes
1.	1.	A	2	G-SRT.8
2.	2.	B	2	G-SRT.6, .8
3.	3.	A	2	G-SRT.1.1
4.	4.	C	2	G-SRT.8
5.	5.	B	2	G-CO.8
6.	6.	B	2	G-C.5
6.	7.	D	2	G-MG.1
7.	8.	A	2	G-CO.3, .4, .5

Domain 2

Coordinate and Transformational Geometry

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Go To The Next Page When Told 

Domain 2
Coordinate and Transformational Geometry
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 2
Coordinate and Transformational Geometry
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

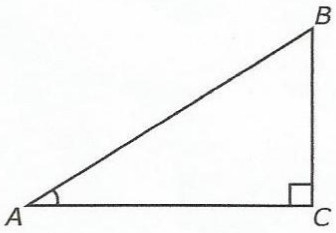
Pythagorean theorem: $a^2 + b^2 = c^2$

Trigonometric ratios

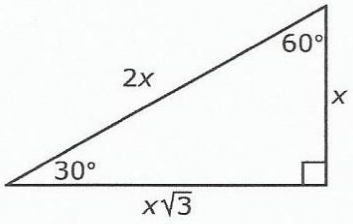
$$\sin A = \frac{\text{opposite leg}}{\text{hypotenuse}}$$

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

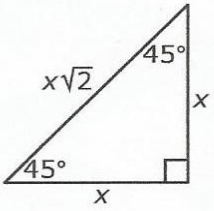
$$\tan A = \frac{\text{opposite leg}}{\text{adjacent leg}}$$



30° – 60° – 90° triangle



45° – 45° – 90° triangle



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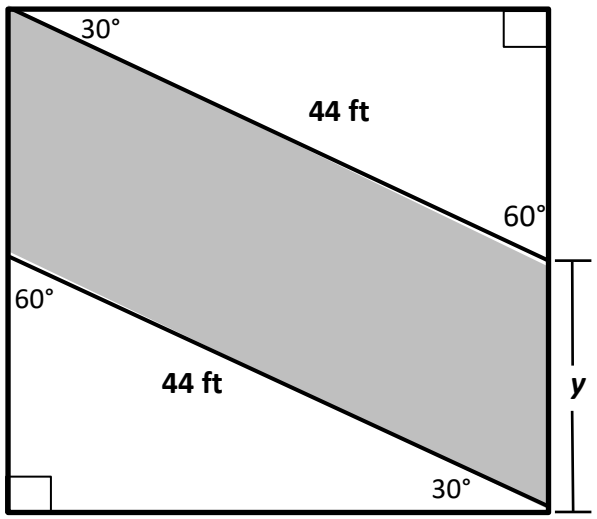
4. **Within a square section of land, a paved area will be built, as shown by the shaded part in the figure below.**



Which answer is closest to the measure of *y* ?

A **11 ft**

B **44 ft**

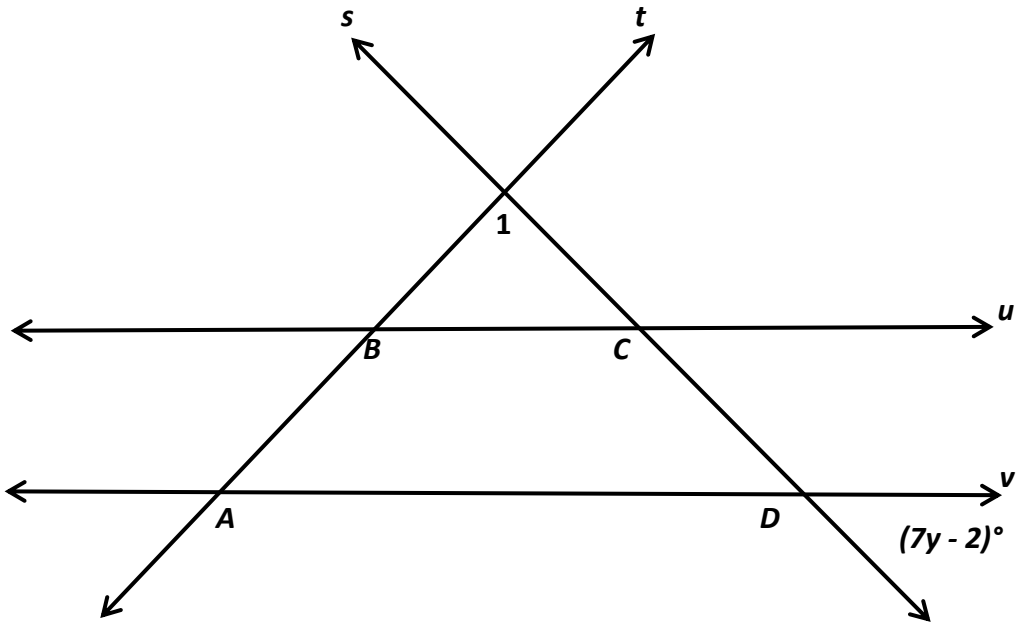
C **22 ft**

D **19 ft**

A **B** **C** **D**

Continue

5. Lines *s, t, u,* and *v* intersect as shown to form isosceles trapezoid *ABCD.*



Which expression below represents the measure of angle 1 in degrees?

A 180 ÷ 2(7y - 2)

B 180 - 2(7y - 2)

C 180 - 2(7y + 2)

D 2(7y - 2)

A B C D

HS Geometry **Math Preparation Review**

Teacher Key

S/N 4139

Page Number	Unit Number	Answer	Domain	CC Codes
1.	1.	D	3	G-CO.1
1.	2.	B	4	G-GM.3
2.	3.	B	2	G-SRT.8
3.	4.	A	4	G-MD.1, .2 .3
3.	5.	D	2	G-SRT.6, .8
4.	6.	D	4	G-SRT.8
5.	7.	D	4	G-SRT.8
5.	8.	D	4	G-C.2
6.	9.	C	5	G-SRT.1b
6.	10.	B	2	G-SRT.1.1
7.	11.	A	5	G-SRT.11
8.	12.	D	4	G-GPE.5
9.	13.	A	1	G-CO.1, .2
9.	14.	D	5	G-CO.6
10.	15.	A	1	G-CO.7, .8
11.	16.	A	4	G-SRT.8
12.	17.	A	5	G-CO.6
12.	18.	B	5	G-SRT.1b
13.	19.	D	4	G-GMD.1.3
13.	20.	A	3	G-CO.1, .2
14.	21.	B	1	G-SRT.1.1
15.	22.	D	2	G-SRT.8
16.	23.	C	5	G-SRT.5
17.	24.	B	3	G-GPE.6
18.	25.	A	3	G-SRT.11
18.	26.	D	4	G-MG.1
19.	27.	C	2	G-CO.8
20.	28.	C	1	G-CO.9
21.	29.	B	2	G-C.5
21.	30.	B	5	G-CO.6
22.	31.	B	1	G-CO.12
23.	32.	A	3	G-PE.5

Teacher Key

S/N 4139

Page Number	Unit Number	Answer	Domain	CC Codes
24.	33.	A	4	G-CO.10
25.	34.	D	3	G-GPE.6, .7
26.	35.	B	4	G-SRT.4, 5
27.	36.	D	4	G-CO.2
28.	37.	A	2	G-MG.1
28.	38.	C	3	G-GPE.5
29.	39.	C	4	G-C.2, .4
30.	40.	C	2	G-CO.3, .4, .5
31.	41.	C	1	G-CO.6
31.	42.	C	4	G-C.5
32.	43.	A	3	G-PE.4
32.	44.	C	4	G-SRT.11
33.	45.	A	4	G-C.2
34.	46.	D	1	G-C.10
34.	47.	C	3	G-CO.9
35.	48.	D	3	G-PE.5
35.	49.	D	1	G-CO.10
36.	50.	D	1	G-MG.2
36.	51.	C	1	G-CO.10
37.	52.	D	1	G-CO.10

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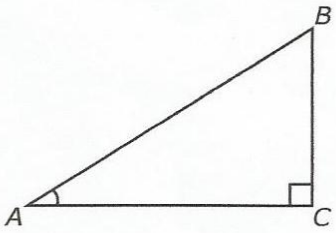
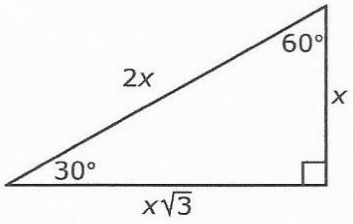
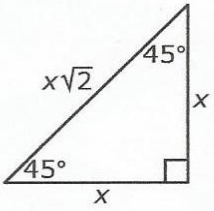


30° – 60° – 90° triangle



45° – 45° – 90° triangle



S/N 4139

Continue

29. What is the arc, measured in degrees, for 29/36 of a circle?

A 295°

B 290°

C 145°

D 300°

A B C D

30. In a 30° , 60° , right triangle each dimension is multiplied by a scale factor of 3. The hypotenuse of the original triangle is 24 units. What is the perimeter of the new triangle?

A $24 + 3\sqrt{3}$

B $108 + 36\sqrt{3}$

C $72 - 36\sqrt{3}$

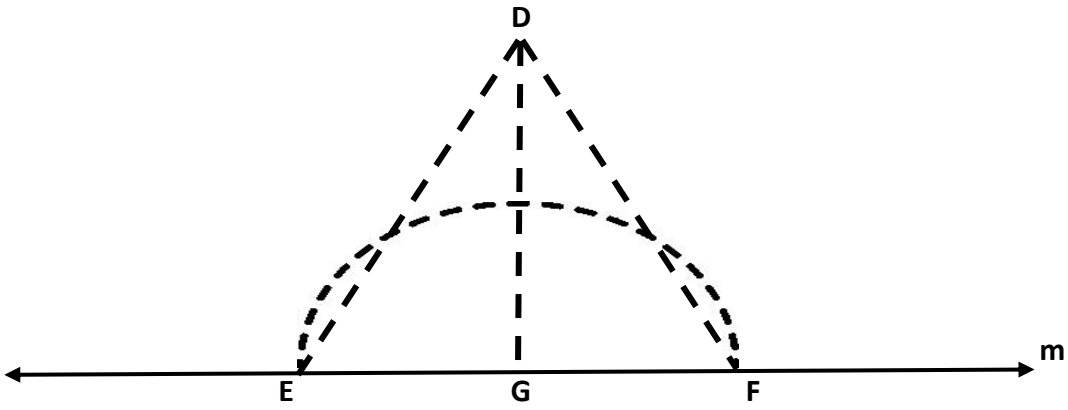
D $108 - 24\sqrt{3}$

A B C D

Continue to Page 22

Continue

31. The diagram below shows the arcs and segments used to construct isosceles triangle DEF. Segment EF is less than segment DG.



Based on the construction above, which statement is true?

A m < GDF = m <F ED

B m < DGF = 1/2(m < DEF)

C m < DGE = m < DFG

D Δ DEF = Δ FGD

A B C D

HS Geometry **Proving Conjectures**

Name: **Date:**

S/N 431

Determine if the three measures shown in each of the ten problems below form a triangle. If not a triangle type is NT.

	Measures:	Yes/No		
1.	Sides measure 10, 6, 8 = triangle?		Type:	
2.	Sides measure 3, 17, 16 = triangle?		Type:	
3.	Sides measure 25, 21, 26 = triangle?		Type:	
4.	Sides measure 35, 40, 36 = triangle?		Type:	
5.	Sides measure 40, 50, 49 = triangle?		Type:	
6.	Sides measure 25, 65, 60 = triangle?		Type:	
7.	Sides measure 84, 91, 35 = triangle?		Type:	
8.	Sides measure 99, 90, 70 = triangle?		Type:	
9.	Sides measure 50, 120, 130 = triangle?		Type:	
10.	Sides measure 350, 500, 420 = triangle?		Type:	

Conjectures:

A.	**If the sum of the 2 smaller sides is greater than the third side, then it is a triangle.**
B.	**If the square of each of the 2 smaller sides added together is greater than the square of the larger side, then it is an acute triangle.**
C.	**If the square of each of the 2 smaller sides added together equals the square of the larger side, then it is a right triangle.**
D.	**If the sum of the 2 smallest sides is less than or equal to the largest side, then it cannot form a triangle.**

Legend:

acute, obtuse, right, NT

HS Geometry **Proving Conjectures**

Teacher Key

S/N 431

CC Codes G-CO.10
Domain 1

Determine if the three measures shown in each of the ten problems below form a triangle. If not a triangle type is NT.

	Measures:	Yes/No		
1.	Sides measure 10, 6, 8 = triangle?	yes	Type:	right
2.	Sides measure 3, 17, 16 = triangle?	no	Type:	NT
3.	Sides measure 25, 21, 26 = triangle?	yes	Type:	acute
4.	Sides measure 35, 40, 36 = triangle?	yes	Type:	acute
5.	Sides measure 40, 50, 49 = triangle?	yes	Type:	acute
6.	Sides measure 25, 65, 60 = triangle?	yes	Type:	right
7.	Sides measure 84, 91, 35 = triangle?	yes	Type:	right
8.	Sides measure 99, 90, 70 = triangle?	yes	Type:	acute
9.	Sides measure 50, 120, 130 = triangle?	yes	Type:	right
10.	Sides measure 350, 500, 420 = triangle?	yes	Type:	acute

Conjectures:

A.	**If the sum of the 2 smaller sides is greater than the third side, then it is a triangle.**
B.	**If the square of each of the 2 smaller sides added together is greater than the square of the larger side, then it is an acute triangle.**
C.	**If the square of each of the 2 smaller sides added together equals the square of the larger side, then it is a right triangle.**
D.	**If the sum of the 2 smallest sides is less than or equal to the largest side, then it cannot form a triangle.**

Legend:

acute, obtuse, right, NT