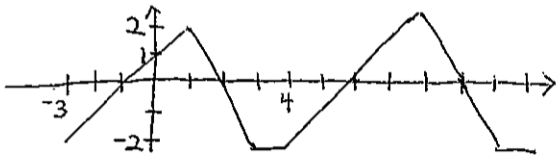
(21.) Circle O is centered at $(-3,1)$ with radius 4. Circle P is centered at $(4,-4)$ and has radius n. If circle O is externally tangent to circle P, then what is the value of n? (Hint: draw, use distance formula)

(22.) Which of the following is the complete solution set of the system:
$A = \{(x,y) : x^2+y^2 = 25\}$ and
$B = \{(x,y) : y = x+1\}$?
(A) $\{(5,5)\}$ (B) $\{(16,9)\}$ (C) $\{(-4,-3)\}$
(D) $\{(-4,-3)\},(3,4)\}$ (E) $\{(-3,-4),(4,3)\}$

Trigonometric Functions
Periodicity
Inverse Trigonometric Functions

(23.) The graph of $y=f(x)$ is shown. $f(x)$ is periodic. 2 cycles are pictured. What is $f(89)$=?

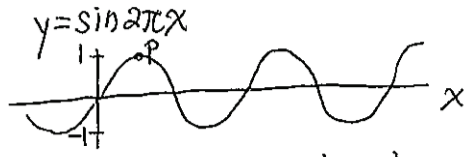


(A) -2
(B) -1
(C) 0
(D) 1
(E) 2

(24.) $g(x)$ has period T
What is the period of $g(Ax+B)$?

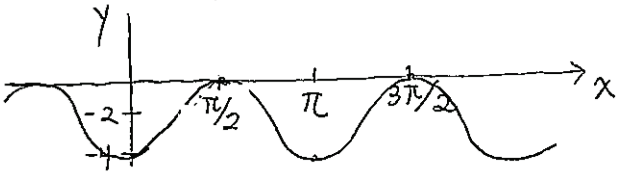
(25.) Determine the amplitude, period, and phase shift of
$y = -2\sin\left(\frac{\pi}{2}x + \frac{3\pi}{2}\right)+1$

(26.)



What are the coordinates of point P?

(27.) Write the equation for the graph below:



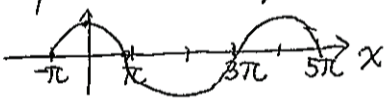
(Hint: cosine ...)

(28.) As θ increases from $\frac{\pi}{4}$ to $\frac{5\pi}{4}$, the value of $4\cos\frac{1}{2}\theta$
(A) increases, then decreases
(B) decreases, then increases
(C) decreases throughout
(D) increases throughout
(E) decreases, increases, then decreases

(29.) $f(x) = \sqrt{3}\cos x + \sin x$ has an amplitude of
(A) 1.37 (C) 2 (E) 3.46
(B) 1.73 (D) 2.73
(Hint: use graphing calculator)

(30.) If $0 \le x \le \pi/2$, what is the maximum value of the function $f(x) = \sin\frac{1}{4}x$?
(Hint: it's not 1)

(31.)



What is N?

(32.) Evaluate $\tan^{-1}\frac{8}{9}$ in degrees and $\sin^{-1}(0.8759)$ in radians

(33.) Evaluate $\tan^{-1}(\tan 128°)$
(A) $-128°$ (C) $52°$ (E) none of these
(B) $-52°$ (D) $128°$

(34.) Find the number of radians in $\cot^{-1}(-5.2418)$
(A) -10.80 (C) -1.38 (E) none of these
(B) -5.30 (D) -0.19
(Hint $\cot^{-1}(-5.2418)=\theta$ $\cot\theta = -5.2418$) Find θ.

(35.) If $\frac{3\pi}{2} < \theta < 2\pi$ and $\sec\theta = 4$, then $\tan\theta$=
(A) -3.93 (C) 0.26 (E) 3.93
(B) -3.87 (D) 3.87
(Hint: Be careful of the quadrant)

(36.) What is a solution of $\cos 3x = \frac{1}{2}$?
(A) $60°$ (B) $5\pi/3$ (C) $\cos^{-1}\left(\frac{1}{6}\right)$
(D) $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$ (E) $\frac{1}{3}\cos^{-1}\left(\frac{1}{2}\right)$

(37.) Which of the following is (are) true?

I. $\sin^{-1}1 + \sin^{-1}(-1) = 0$

II. $\cos^{-1}1 + \cos^{-1}(-1) = 0$

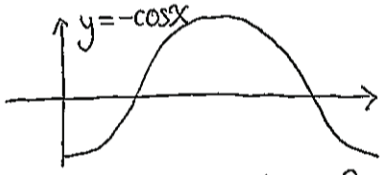
III. $\cos^{-1}x = \cos^{-1}(-x)$ for all x in the domain of $\cos^{-1}$

(A) only I (D) only I and II
(B) only II (E) only II and III
(C) only III

(38.) (i) When is $\cos^{-1}(\cos t) = t$?
(ii) When is $\tan(\tan^{-1}z) = z$?

(39.) Without using a graphing calculator, sketch $y = 3\sin[(2x-8)] + 5$

(40.)



One complete cycle of the graph of $y = -\cos x$ is shown. What are the x and y coordinates of the point at which the maximum value of y occurs?

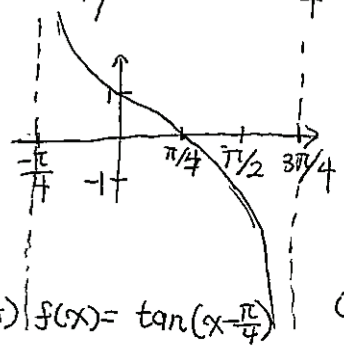
(41.) If $f(x) = \sin(\arctan x)$ and $g(x) = \tan(\arcsin x)$, and $0 \le x < \pi/2$, then $f(g(\frac{\pi}{10})) =$

(A) 0.314 (C) 0.577 (E) 0.866
(B) 0.354 (D) 0.707

(42.) If $\sin(\arcsin x) = \frac{\sqrt{2}}{4}$, then what is the value of x?

(A) $\frac{\sqrt{2}}{4}$ (C) $\frac{\sqrt{2}}{2}$ (E) $\frac{2\sqrt{2}}{3}$
(B) $\frac{\sqrt{7}}{7}$ (D) $\frac{\sqrt{14}}{4}$

(43.)



The graph of $y = f(x)$ is shown at left, which could be true?

(A) $f(x) = \tan(x - \frac{\pi}{4})$
(B) $f(x) = \cot(x - \frac{\pi}{4})$
(C) $f(x) = \tan(x + \frac{\pi}{2})$
(D) $f(x) = \cot(x + \frac{\pi}{4})$
(E) $f(x) = \tan(x + \frac{\pi}{4})$

(44.) If $0 \le n \le \frac{\pi}{2}$ and $\cos(\cos n) = 0.8$ then $\tan n =$

(A) 0.65 (B) 0.75 (C) 0.83 (D) 1.19 (E) 1.22

(45.) If $\csc\theta = \frac{1}{3t}$, then where defined, $\cos\theta =$

(A) $3t$ (C) $\sqrt{1-9t^2}$ (E) $\frac{3t}{\sqrt{1-9t^2}}$
(B) $\sqrt{1-3t^2}$ (D) $\frac{3t}{\sqrt{1-3t^2}}$

(46.) $g(x) = A\sin(Bx + C) + D$
A, B, C, D are constants. If $g(x)$ is to be altered in such a way that both its period and amplitude are increased, which of the following must be increased?

(A) |A| only (D) |A| and B only
(B) B only (E) C and D only
(C) C only

(47.) If $\sin x = m$ and $0 < x < 90°$, then $\tan x =$

(A) $\frac{1}{m^2}$ (C) $\frac{1-m^2}{m}$ (E) $\frac{m^2}{\sqrt{1-m^2}}$
(B) $\frac{m}{\sqrt{1-m^2}}$ (D) $\frac{m}{1-m^2}$

(48.) If the ratio of $\sec x$ to $\csc x$ is 1:4, then the ratio of $\tan x$ to $\cot x$ is

(A) 1:16 (C) 1:1 (E) 16:1
(B) 1:4 (D) 4:1

(49.) y varies directly as the square of x. When $y = 2.5$, $x = 0.5$. If $y = 80$, then x could equal

(A) $-2\sqrt{2}$ (C) -10 (E) -64
(B) -8 (D) -16
(Hint $y = kx^2$)

(50.) If $(\tan\theta - 1)^2 = 4$, then which of the following could be the value of θ in radian measure?

(A) -0.785 (D) 1.512
(B) 1.373 (E) 3
(C) 1.504

Homework 6 (SAT Math Level 2 Prep)

Trig IDs, Unit Circle, Quadrant, Right Triangles

(1.) $\frac{\tan x \cos x}{\sin x} =$

(A) $\frac{1}{\tan x}$ (C) 1 (E) $\tan x$

(B) $\frac{1}{\cos x}$ (D) $\cos^2 x$

(2.) $\frac{1}{\cos x} - (\sin x)(\tan x) =$

(A) $\cos x$ (C) $\tan x$ (E) $\sin^2 x$

(B) $\sin x$ (D) $\cos^2 x$

(3.) $\frac{\tan x - \sin x \cos x}{\tan x} =$

(A) $1-\cos x$ (C) $\tan x + 1$ (E) $\sin^2 x$

(B) $1-\sin x$ (D) $\cos^2 x$

(4.) $12\sqrt{3} - (8\cos x)\left(\frac{3\sqrt{3}}{2}\cos x\right) =$

(A) $\sin^2 x$

(B) $12\sqrt{3}\sin^2 x$

(C) $12\sqrt{3} - 12\sqrt{3}\cos x$

(D) $12\sqrt{3}\cos^2 x$

(E) $12\sqrt{3} - \frac{19\sqrt{3}}{2}\cos x$

(5.) If $\cos 2A = \frac{7}{19}$, then $\frac{1}{\cos^2 A - \sin^2 A} =$

(A) 0.18 (B) 0.37 (C) 0.74 (D) 1.36 (E) 2.71

(6.) x is in quadrant 3

$\tan(x-30^\circ) = \cot x$. Solve for x

(7.) $\sin^3\theta + \sin\theta - \sin\theta\cos^2\theta =$

(A) 0 (C) $\sin 2\theta$ (E) $2\sin^3\theta$

(B) $\sin\theta$ (D) $2\sin\theta$

(8.) $\sin 2A = \frac{1}{2}$. Then $\frac{1}{2\sin A \cos A} =$

(A) 1 (B) 3/2 (C) 2 (D) 3 (E) 4

(9.) If $\cos x \sin x = 0.22$, then $(\cos x - \sin x)^2 =$

(A) 0 (B) 0.11 (C) 0.44 (D) 0.56 (E) 1.00

(10.) $\sec^2 x - 1 =$

(A) $\sin x \cos x$ (C) $\cos^2 x$ (E) $\tan^2 x$

(B) $\sec^2 x$ (D) $\sin^2 x$

(11.) The polar equation $r\sin\theta = 1$ graphs

(A) a line (C) an ellipse (E) a hyperbola

(B) a circle (D) a parabola

(12.) If $\cos 23^\circ = z$, find the value of $\cos 46^\circ$ in terms of z

(13.) If $\sec A = \csc B$, then

(A) $A = B$ (C) $B = 90^\circ + A$ (E) $A + B = 180^\circ$

(B) $A = 90^\circ + B$ (D) $A + B = 90^\circ$

(14.) For all θ,

$\sin\theta + \sin(\theta+\pi) + \sin(2\pi+\theta) =$

(A) $-\sin\theta$ (C) $2\sin\theta$ (E) $2\sin\theta + \cos\theta$

(B) $\sin\theta$ (D) $3\sin\theta$

(15.) What's the range of $f(x) = -3 - 2\sin(2x+1)$?

(16.) For $0 \le x \le \pi$, where is $\frac{\tan x}{\sin x}$ defined?

(17.) If $0 \le x \le 2\pi$ and $\sin x < 0$, which of the following must be true?

I. $\cos x < 0$

II. $\csc x < 0$

III. $|\sin x + \cos x| > 0$

(A) I only (C) III only (E) II and III

(B) II only (D) I and II

(18.) $\sin\theta = \frac{1}{z}\cos\theta$, and $0 \le \theta \le \frac{\pi}{2}$

Find the value of $\frac{1}{2}\sin\theta$ in terms of z

(19.) If $x \ge 0$ and $\arcsin x = \arccos(2x)$ then $x =$

(A) 0.866 (C) 0.500 (E) 0.245

(B) 0.707 (D) 0.447

(20.) $\frac{1-\cos 40^\circ}{2} =$

(A) $\cos^2 20^\circ$ (C) $\tan 20^\circ$ (E) $\tan^2 80^\circ$

(B) $\sin^2 20^\circ$ (D) $\cos 80^\circ$

(21.) ~~If $x \geq 0$~~, $a = x\cos\theta$, $b = x\sin\theta$ then $\sqrt{a^2+b^2} =$

(A) 1 (C) $|x|$ (E) $x\cos\theta\sin\theta$

(B) x (D) $x(\cos\theta + \sin\theta)$

(22.) If $\cos 2x = \sin x$, and x is in radians, which is a possible value of x?

(A) 0.39 (C) 1.05 (E) 2.09

(B) 0.52 (D) 1.60

(23.) If $0 < x < \frac{\pi}{2}$, and $\tan x = \frac{a}{2}$, then $\cos x =$

(A) $\frac{2}{\sqrt{a^2-4}}$ (C) $\frac{2}{a+2}$ (E) $\frac{a}{\sqrt{a^2+4}}$

(B) $\frac{a}{\sqrt{a^2-4}}$ (D) $\frac{2}{\sqrt{a^2+4}}$

(24.) a) Given $\cos\theta = -\frac{2}{3}$

$\pi \leq \theta \leq \frac{3\pi}{2}$, find $\sin 2\theta$

b) Given θ is in the third quadrant, and $\cos\theta = -t$ (where $t>0$)

find $\sin 2\theta$

(25.) If $\sin 100^\circ = z$, express $\sin 200^\circ$ in terms of z

(26.) If θ is an acute angle for which $\tan^2\theta = 6\tan\theta - 9$, what is the degree measure of θ?

(A) 51.3 (C) 71.6 (E) 83.5

(B) 60.0 (D) 79.7

(27.) What is the y-coordinate of the point at which the graph of $y = 2\sin x - \cos 2x$ intersects the y-axis?

(A) -2 (C) 0 (E) 2

(B) -1 (D) 1

(28.) Solve $2\sin x + \cos 2x = 2\sin^2 x - 1$ for $0 \leq x \leq 2\pi$

(a) Algebraically

(b) Check the answer with a graphing calculator

(29.) Find values of x on the interval $[0, \pi]$ for which $\cos x > \sin 2x$

(30.) For what value(s) of x, $\pi < x < \frac{3\pi}{2}$, is $\sin x < \cos x$?

(31.) Given $\sec\theta = -3$ and $\pi \leq \theta \leq 3\pi/2$, find $\tan\theta$

(32.) If $\frac{\pi}{2} < x < \pi$, and $\sin^2 x = a$, $\cos^2 x = b$, then $\sin 2x + \cos 2x =$

(A) $2\sqrt{ab} + b - a$ (E) $2ab + 2a - 1$

(B) $-2\sqrt{ab} + b - a$

(C) $2\sqrt{ab} + 2a - 1$

(D) $2\sqrt{ab} - 2b + 1$

Hints These are practice problems about

IDs #1~5, 7~13, 20

Trig. function 14~17

Triangles 18, 19, 23

Quadrant/Triangle 24, 25, 31, 32

Solving 26~30

Homework #7: Geometry

Part I. Do the examples in Handout, Lesson #7

Part II. Practice the problems here

① If $\begin{vmatrix} l & m & n \\ p & q & r \\ s & t & u \end{vmatrix} = A$, then $\begin{vmatrix} 3l & 3m & 3n \\ 3p & 3q & 3r \\ 3s & 3t & 3u \end{vmatrix} =$

(A) 3A (B) 6A (C) 9A (D) 27A (E) 3^9A

② For every pair (x,y) in the rectangular coordinate plane, $f:(x,y) \to (x, -8x+3y)$. What's the set of points for $f:(x,y) \to (x,y)$?

(A) The point (-4,0)

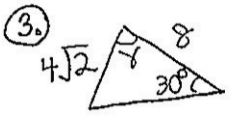
(B) The point (4,12)

(C) Set of points (x,y) that satisfy the equation $x=4y$

(D) The set of points (x,y) that satisfy the equation $y=4x$

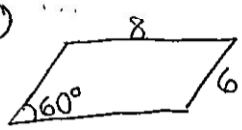
(E) The set of points (x,y) that satisfy the equation $y=8x$

Triangles in General

③ 

$\gamma = ?$

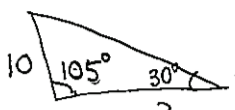
(Hint: 2 possibilities)

④ 

Parallelogram

Find the length of the longer diagonal

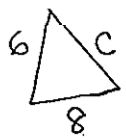
(A) 8 (B) 11 (C) 12 (D) 7 (E) 17

⑤ 

$a = ?$

(A) 7 (B) 9 (C) 10

(D) 14 (E) 17

⑥ 

area $= 12\sqrt{3}$

$c = ?$

(A) $2\sqrt{37}$

(B) $2\sqrt{13}$

(C) $2\sqrt{37}$ or $2\sqrt{13}$

(D) 10

(E) 10 or 12

⑦ Given the following data, which can form two triangles?

I. $\angle C = 30°$, $c = 8$, $b = 12$

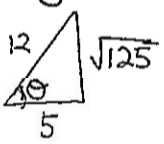
II. $\angle B = 45°$, $a = 12\sqrt{2}$, $b = 15\sqrt{2}$

III. $\angle C = 60°$, $b = 12$, $c = 5\sqrt{3}$

(A) only I (C) only III (E) only I & III

(B) only II (D) only I & II

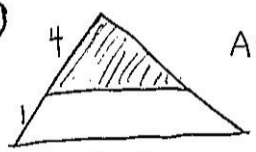
⑧ What is the value of θ in degrees?



(Not drawn to scale
Hint: don't use the Pythagorean Thm!)

(A) 62 (B) 65.38 (C) 65.91

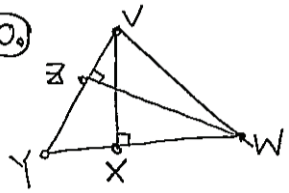
(D) 68.49 (E) 68.70

⑨ 

Area of shaded region is a

Find the area of the big triangle in terms of a

(A) $\frac{4a}{5}$ (B) $\frac{16a}{25}$ (C) $\frac{16a}{20}$ (D) $\frac{5a}{4}$ (E) $\frac{25a}{16}$

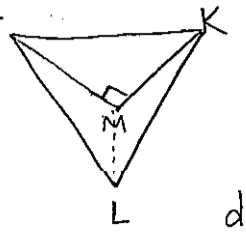
⑩ 

$\overline{VX} = 3$ $\overline{YW} = ?$

$\overline{YV} = 4$

$\overline{ZW} = 5$.

(Hint: area)

⑪ 

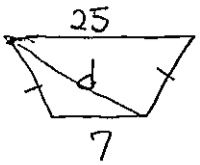
$\triangle JKL$ equilateral

$\triangle JKM$ isosceles

$\overline{KI} = 2$

distance from L to M?

(Hint: Similar to 45-45-90 and 30-60-90 special triangles)

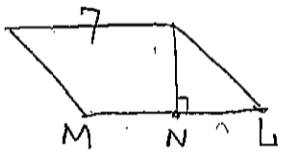
⑫ 

isosceles trapezoid

$d = ?$

Perimeter = 62

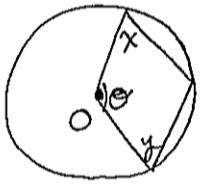
(Hint: d is the hypotenuse of a right triangle

(13.) 

Parallelogram
Area = 28

N is the midpoint of $\overline{ML}$
Find the perimeter of the parallelogram

(A) 24.6302 (C) 28 (E) 33.941
(B) 23.25 (D) 31.596

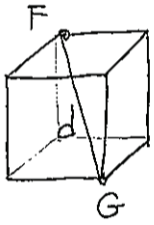
(14.) 

Circle, center O
Find θ in terms of x and y?
Hint: 

θ =

(A) $(360+x+y)^\circ$ (D) $(180+x+y)^\circ$
(B) $(360-x-y)^\circ$ (E) $(180-2x-2y)^\circ$
(C) $(360-2x-2y)^\circ$

Solid Geometry

(15.) 

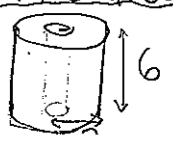
d = distance from vertex F to vertex G
base is square
height is twice the width
Volume of the box?

(A) $12d^3\sqrt{6}$ (D) $\frac{2d^3\sqrt{5}}{25}$
(B) $10d^3\sqrt{5}$ (E) $\frac{d^3\sqrt{6}}{18}$
(C) $6d^3\sqrt{2}$

(16.) A cube with edges of length b is divided into 8 equal smaller cubes. What's the difference between the combined surface area of the 8 smaller cubes and the surface area of the original cube?

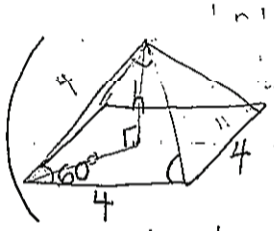
(A) $\frac{3}{2}b^2$ (C) $\frac{9}{2}b^2$ (E) $12b^2$
(B) $\frac{3}{4}b^2$ (D) $6b^2$

(17.) A right circular cylinder with radius 2 meters and height 6 meters has a cylindrical hole of diameter 2 meters drilled through the center. Entire surface area?



(A) 38π (C) 42π (E) 46π
(B) 40π (D) 44π

(18.) Pyramid with square base of area 16 and 4 isosceles triangles, in which each base angle is 60°. Volume of pyramid?

Hint: 

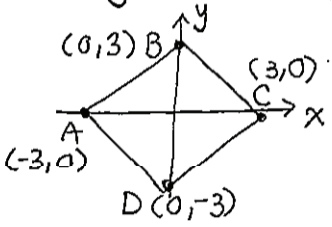
$V = \frac{1}{3}Bh$

60° ⇒ equilateral sides

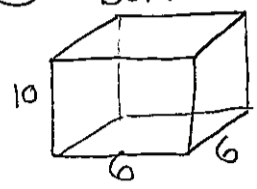
(19.) A right circular cone and a sphere have the same volumes. If the cone has radius x and height 2x, what is the radius of the sphere?

(A) x (C) $3\sqrt{2}$ (E) $3\sqrt{2}\,x$
(B) $\frac{x}{3\sqrt{2}}$ (D) $\frac{1}{3\sqrt{2}}$

(20.) What is the volume generated by rotating square ABCD around the y-axis? (Hint: Two right-circular cones)

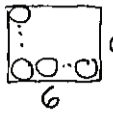


(21.) Box



Shape of Marker (Right circular cylinder)

If the box is filled with as many markers as possible, what percentage of the space is left unused?

(Hint 

N = how many markers fit?
$\frac{V_{Box} - NV_{marker}}{V_{Box}}$ %)

(A) 21.5% (C) 29.3% (E) 70.7%
(B) 24.6% (D) 31.8%

More geometry practice

(22.) If points $(0,4), (0,-3), (7,-3)$, and $(j,4)$ are consecutive vertices of a trapezoid of area 35, what is the value of j?

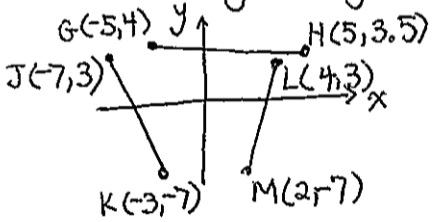
(A) 3 (B) 4 (C) 7 (D) 10 (E) 11

(23.) The graph of the equation $x^2+y^2=169$ includes how many points (x,y) in the coordinate plane where x and y are both negative integers?

(A) None (C) Two (E) Infinitely many
(B) One (D) Three

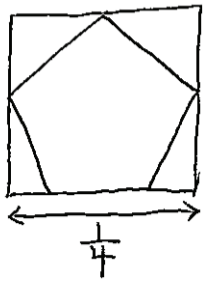
(Hint: 5-12-13, 12-5-13 triangles)

(24.) If the midpoints of $\overline{GH}$, $\overline{JK}$, and $\overline{LM}$ are connected, what's the area of the resulting triangle?

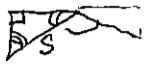


(A) 20 (B) 23 (C) 26 (D) 33 (E) 37.5

(25.) Regular pentagon with vertices on the sides of a rectangle.

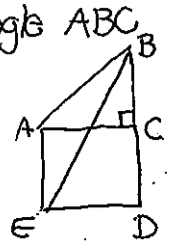


What is the perimeter of the pentagon?

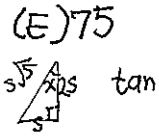
(Hint: find the angles  Use the Law of Sines)

(A) 0.31 (B) 0.62 (C) 0.77 (D) 0.80 (E) 1.0

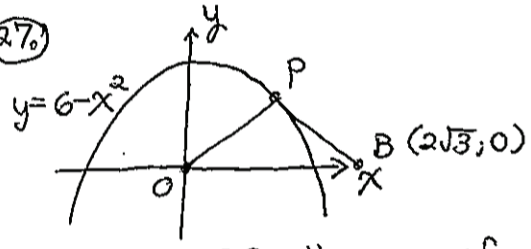
(26.) Isosceles right triangle ABC
Square ACDE
$\angle EBC = ?$



(A) 27 (B) 30 (C) 60)
(D) 63 (E) 75

(Hint:  $\tan x = \frac{s}{2s}$)

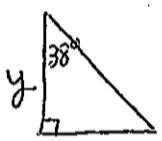
(27.)



If $OP = BP$, the area of triangle OPB is

(A) 1.7 (B) 3.0 (C) 3.5 (D) 4.7 (E) 5.2

(28.)

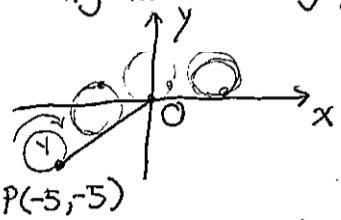


$y = ?$
Given area = 15

(Hint: Law of Sines & Area $\frac{1}{2}by$)

(A) 2.1 (B) 4.1 (C) 6.2 (D) 8.2 (E) 9.6

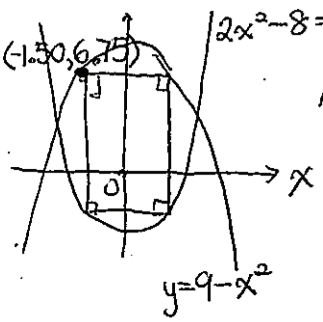
(29.) A circle of radius 1 is placed on an incline where point P, a point on the circle, has coordinates $(-5,-5)$. The circle is rolled up the incline, and once the circle hits the origin, the circle is then rolled horizontally along the x-axis to the right. What is the x-coordinate of the point where P touches the incline on the x-axis for the 5th time (not including the starting point)?



(Hint: think of a wheel of radius 1. Point P on the wheel goes down for the 5th time after traveling $2\pi(1)\times 5$ distance up the incline & along x-axis)

(A) 8.64 (C) 24.34 (E) 30.63
(B) 17.27 (D) 27.49

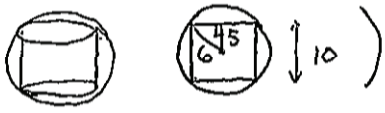
(30.)



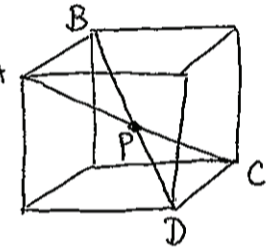
Area of rectangle?

(A) 12.50 (B) 17.50 (C) 22.75 (D) 26.50 (E) 30.75

(31.) If a right circular cylinder of height 10 is inscribed in a sphere of radius 6, what's the volume of the cylinder?

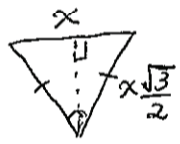
(Hint: )

(A) 104 (B) 346 (C) 545 (D) 785 (E) 1,131

(32.) 

If the diagonals AC and BD intersect at point P in the cube, what's $\angle APB$ in degrees?

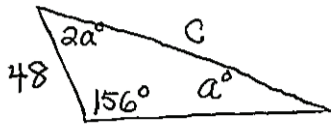
(A) 60 (B) 65 (C) 71 (D) 83 (E) 90

(Hint: )

(33.) The greatest possible distance between any two points on the surface of a right circular cylinder is $\sqrt{193}$. Area of circular base is 36π. Volume of cylinder?

(A) 252π (C) 343π (E) $1,008\pi$
(B) 294π (D) 386π

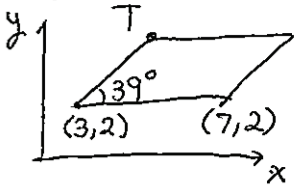
(Hint )

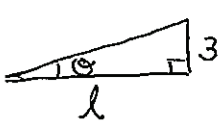
(34.) 

C = ?

(A) 16.4 (C) 95.1 (E) 140.3
(B) 70.8 (D) 118.0

(35.) Perimeter = 14
y-coordinate of point T?

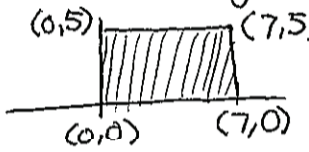


(36.) 

$5° < \theta < 7°$
What could l be?

(A) 19 (B) 24 (C) 28 (D) 35 (E) 42

(37.) What's the volume of the solid created by rotating the rectangle around the y-axis?

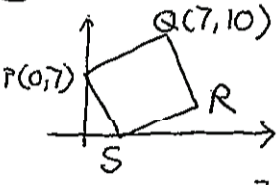


(A) 219.91 (C) 549.78 (E) 816.24
(B) 245 (D) 769.69

(38.) Which cannot occur when a line is in the same plane as a triangle?

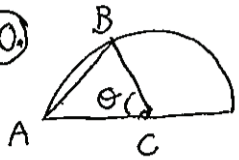
(A) Points of line inside the triangle and on the perimeter of the triangle divide the triangle into a triangle and a quadrilateral
(B) The line intersects the triangle at exactly 3 points
(C) The line intersects the triangle at exactly one point
(D) The triangle and line have infinitely many points in common
(E) The line divides the triangle into two isosceles triangles.

(39.) What is the slope of segment QR?



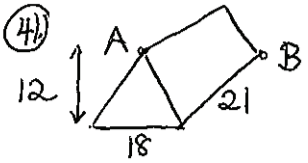
(square)
(Hint: negative reciprocal ⊥)

(A) $-\frac{10}{3}$ (B) $-\frac{7}{3}$ (C) $-\frac{4}{3}$ (D) $-\frac{3}{7}$ (E) $\frac{7}{3}$

(40.) 

semicircle area $= 8\pi$
C = center
area of $\triangle ABC$?
(Hint: 2 sides with angle between)

(A) $2\sin\theta\tan\theta$ (C) $8\cos\theta$ (E) $8\sin\theta\tan\theta$
(B) $4\sin\theta$ (D) $8\sin\theta$

(41.) 

Triangular solid
Triangular faces are isosceles.
Distance between A & B?

(A) $9\sqrt{5}$ (B) $3\sqrt{58}$ (C) $3\sqrt{74}$ (D) $3\sqrt{85}$ (E) $6\sqrt{11}$

(42.) ratio of surface area of Sphere A to Sphere B is 729:1. Ratio of volume of Sphere A to Sphere B is?

(A) 27:1 (C) 19683:1 (E) 531441:1
(B) 81:1 (D) 26224:1