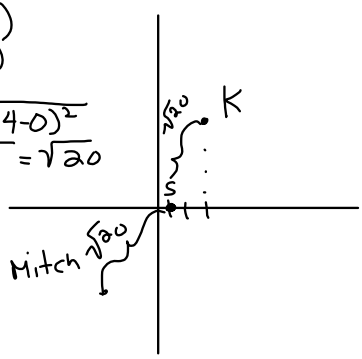
1. Kevin (3,4)
Store (1,0)

$D=\sqrt{(3-1)^2+(4-0)^2}$

$\sqrt{4+16}=\sqrt{20}$



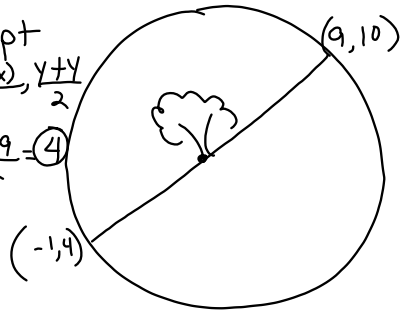
Apr 26-7:50 AM

2)

Midpt

$\frac{(x+x)}{2}, \frac{y+y}{2}$

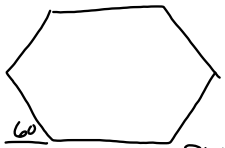
$\frac{-1+9}{2}=4$



Apr 26-7:53 AM

3) 80°

4) B



$\frac{360°}{\text{Ext}\angle}=\#$ of sides

$\frac{360}{60}=6$ sides

$\frac{360}{\#\text{ of side}}=\text{Ext}\angle$

$\frac{360}{6}=60°$ ext angle

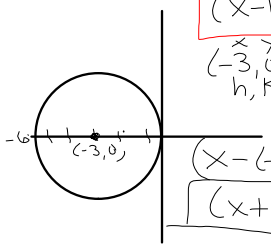
Apr 26-7:55 AM

5) D

Equation of a Circle

$(x-h)^2+(y-k)^2=r^2$

$(\overset{x}{-3},\overset{y}{0})$ Center
h, k



$(x-(-3))^2+(y-0)^2=3^2$

$(x+3)^2+y^2=9$

Apr 26-7:57 AM

Example

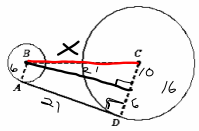
$(x-4)^2 + (y+5)^2 = 25$

Center $(4,5)$

radius $\sqrt{25} = 5$

Apr 26-1:25 PM

4 $\overline{AD}$ is perpendicular to the radius of each circle in the figure below. If $BA = 6$ inches, $AD = 21$ inches, and $CD = 16$ inches, find the length of $\overline{BC}$ to the nearest tenth of an inch.



A. 18.9 inches
B. 29.7 inches
C. 21.8 inches
D. 23.3 inches

Apr 26-8:00 AM

$x^2 + y^2 - 8x + 2y - 47 = 0.$

What is the center and the radius of this circle?

$x^2 + y^2 - 8x + 2y = 47$

$x^2 - 8x + y^2 + 2y = 47$

Completing the Square

$x^2 - 8x + 16 + y^2 + 2y + 1 = 47 + 16 + 1$

$\left(\frac{8}{2}\right)^2 \quad \left(\frac{2}{2}\right)^2$

64

$(x-4)^2 + (y+1)^2 = 64$

Center $(4,-1)$ $r = 8$

$(x-h)^2 + (y-k)^2 = r^2$

Ex $(x-2)^2 + (y+3)^2 = 9$

$(2,-3)$ Center $r = \sqrt{9}$

$r = 3$

Apr 26-8:03 AM

$x^2 + y^2 - 4x + 8y - 15 = 0$ Move 15 to the right

$x^2 + y^2 - 4x + 8y = 15$

$x^2 - 4x + y^2 + 8y = 15$ Combine like terms

$(x-2)^2 + (y+4)^2 = 15 + 4 + 16$

$(x-2)^2 + (y+4)^2 = 35$

Center $(2,-4)$ $r = \sqrt{35}$

Apr 26-8:13 AM

$x^2 + y^2 - 6x + 4y - 2 = 0$

Give equation of a circle

$x^2 + y^2 - 6x + 4y = 2$ move constant to Right

$x^2 - 6x + y^2 + 4y = 2$ combine like terms

$(x-3)^2 + (y+2) = 2 + 3^2 + 2^2$

$(x-3)^2 + (y+2) = 15$

Center $(3,-2)$ radius $= \sqrt{15}$

Apr 26-9:39 AM

$x^2 + y^2 - 8x + 8y - 4 = 0$

Give Equation of a Circle

$x^2 + y^2 - 8x + 8y = 4$

$x^2 - 8x + y^2 + 8y = 4$

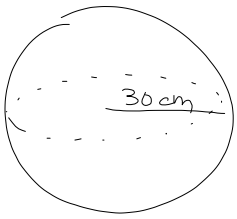
$(x-4)^2 + (y+4)^2 = 4 + 4^2 + 4^2$

$(x-4)^2 + (y+4)^2 = 36$

Center $(4,-4)$ $r = 6$

Apr 26-9:46 AM

6. C



V_{sphere} $\frac{4}{3}\pi r^3$

$\frac{4}{3}\pi(30)^3$

$\frac{4}{3}\pi 27000$

$4\pi 9000$

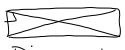
36000π

$\boxed{113{,}040 \text{ cm}^3}$

Apr 26-8:25 AM

7) A

Diagonals $\perp$



Diagonals $\cong$

8) C

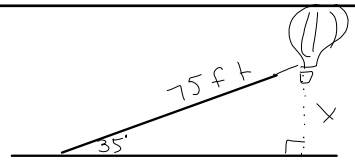
Diagonals $\perp$ + $\cong$

9) A

10)

Apr 26-8:26 AM

9)



$\sin 35 = \frac{x}{75}$

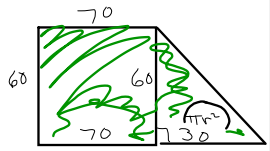
$75 \sin 35 =$

$\boxed{43 \text{ ft}}$

Apr 26-8:29 AM

11) B

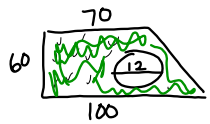
Area of ▭ − ○



▭ = 60 × 70 4200

△ = $\frac{1}{2}(60)(30)$ 900

5100



$A_{Trapezoid} = \frac{1}{2}h(b_1 + b_2)$

$A_{Trapezoid} = \frac{1}{2}(60)(70+100)$

$A_{Trapezoid} = 5100$

$A_{○} = \pi r^2 = \pi 6^2 = 113$

$\boxed{▭ - ○ \quad 5100 - 113 = 4987 \text{ ft}^2}$

Apr 26-8:31 AM

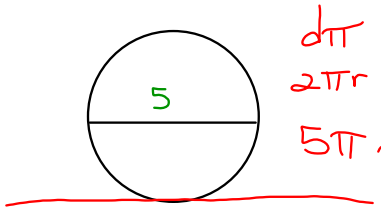
13

Use Circumference

$d\pi$

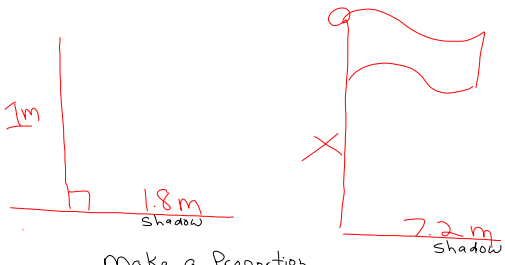
$2\pi r$

$5\pi \sim 15.7$



Apr 26-1:35 PM

16)



Make a Proportion

$\frac{1m}{1.8m} = \frac{x}{7.2m}$ or $\frac{1}{x} = \frac{1.8}{7.2}$

Cross product

$\frac{1.8x}{1.8} = \frac{7.2}{1.8}$

$x = 4$ meter

Apr 26-8:34 AM

Sum of interior ∠s $\boxed{(n-2)180}$

$(4-2)180$

$2(180)$

360° All 4 sided figures

△3 = 180°

□4 360

⬠5 540

⬡6 $(6-2)180$

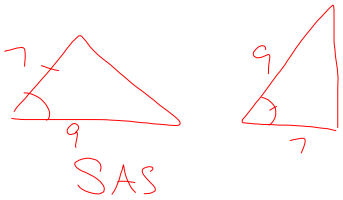
720

180

⬡7 900

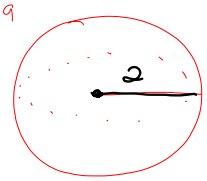
⬡8 1080

Apr 26-8:48 AM

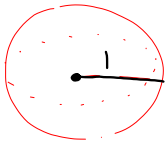


Apr 26-8:50 AM

19



$SA = 4\pi r^2$



$4\pi(2)^2$

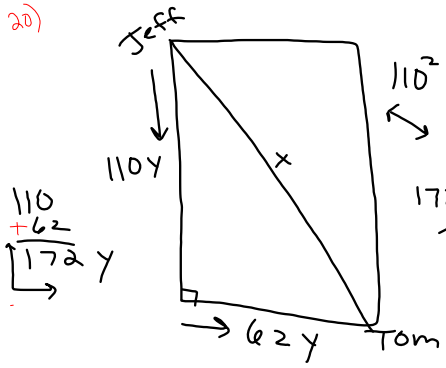
16π

$4\pi(1)^2$

4π

Apr 26-8:50 AM

20)



$110^2 + 62^2 = x^2$

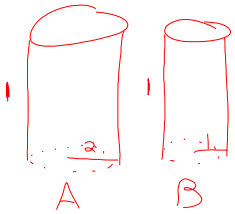
$x = 126y$

110
$+62$
$172y$

$172 - 126 =$
46

Apr 26-8:52 AM

21)



A B

$V = Bh$

$V = \pi r^2 h$

$A = \pi(2)^2(1)$

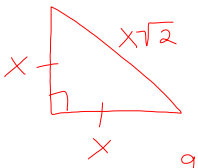
4π

$B\ \pi(1)^2\ 1$

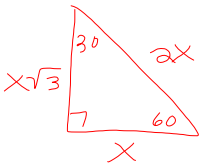
π

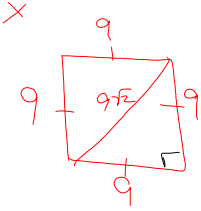
Apr 26-8:53 AM

45°, 45°, 90°



30°, 60°, 90°



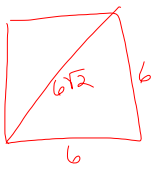


$P = 36$

$4x = 36$

$x = 9$

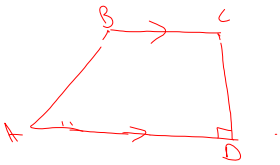
Apr 26-8:55 AM



area of square

36 sq units

Apr 26-8:56 AM



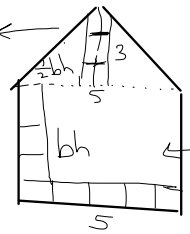
Apr 26-8:57 AM

27/ Area

$\frac{1}{2}(5)(3)$

7.5 Blocks

$7.5 \times 36 = 270$



$\square = 36 ft^2$

$5 \times 4 = 20$

20 Blocks $\times 36 ft^2$

$720 ft^2$

$270 + 720 = 990$

About $1{,}000 ft^2$

Apr 26-8:59 AM

If it's a Triangle

Diff of 2 small sides < Longest side < Sum of 2 smaller sides

6 6 15

$0 < 15 \not< 12$

Apr 26-9:03 AM

8 9 10

$9 - 8$ 10 $9 + 8$

1 10 17

✓

Apr 26-9:04 AM

3 4 8

$4 - 3 < 8 \not< 4 + 3$

$1 < 8 \not< 7$

not a Triangle

Apr 26-1:47 PM

Is this a Δ

3 4 6

$4-3 < 6 < 4+3$

$1 < 6 < 7$

yes

Apr 26-1:47 PM

Top + Bottom

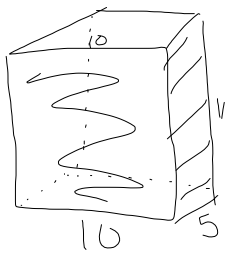
$10 \times 5 = 50$ = 2 of them $\boxed{100}$

Front + Back

$11 \times 10 = 110$ $\boxed{220}$

Sides

$11 \times 5 = 55$ $\boxed{110}$



$\boxed{100 + 220 + 110 = 430 \text{ cm}^2}$

Apr 26-10:12 AM

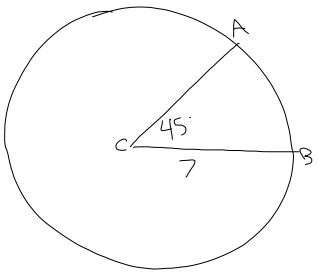
37

Area of sector

$\pi r^2 \left(\frac{\text{angle}}{360}\right)$

$\pi 7^2 \left(\frac{45}{360}\right)$

19.23

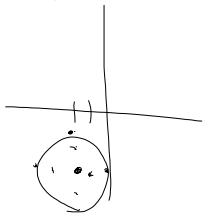


Apr 26-9:09 AM

$(x+2)^2 + (y+3)^2 = 4$

$(-2, -3)$ center

$\sqrt{4} = 2$ radius



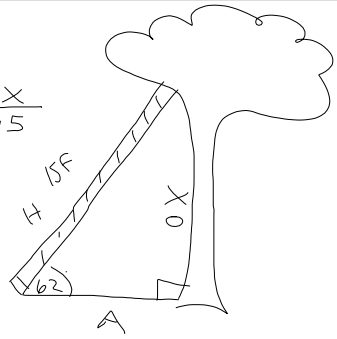
Apr 26-1:50 PM

42)

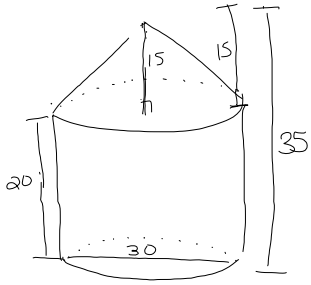
$\sin 62 = \frac{x}{15}$

$15 \sin 62$

$\boxed{13.24}$



Apr 26-1:56 PM



$V = Bh$

$\boxed{\pi r^2 h \text{ cyclinder}}$

$\boxed{\frac{\pi r^2 h}{3} \text{ cone}}$

$\pi r^2 \quad \pi(15)^2(20) + \frac{\pi(15)^2 15}{3}$

$14130 + 3532.5 = \boxed{17662.5 \text{ cubic units}}$

Apr 26-1:58 PM

41)

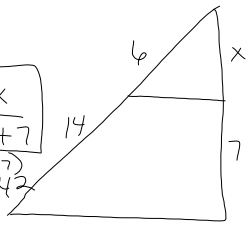
$\boxed{\frac{6}{20} = \frac{x}{x+7}}$

$20x = 6(x+7)$

$20x = 6x + 42$

$\frac{14x}{14} = \frac{42}{14}$

$\boxed{x = 3}$

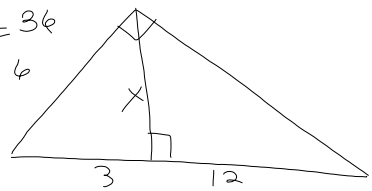


Apr 26-1:52 PM

$x^2 = 3 \cdot 12$

$x^2 = 36$

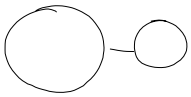
$x = 6$

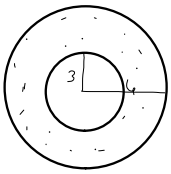


Apr 26-1:55 PM

48

Area ○ πr^2





$\pi r^2 - \pi r^2$

$\pi 6^2 - \pi 3^2$

C

$36\pi - 9\pi = 27\pi$ $\boxed{27(3.14) = 84.78 \text{ in}^2}$

Apr 26-10:12 AM

50

Triangular Pyramid

6

△ = 4 faces

Apr 26-10:24 AM

PR ≅ PR

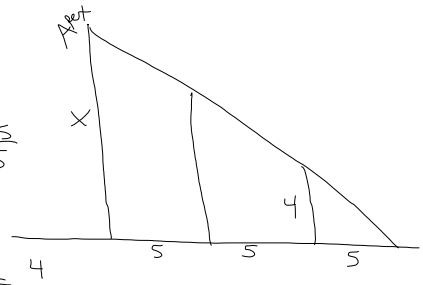
Reflexive

D SAS

Apr 26-10:29 AM

65

C



$\frac{x}{4} = \frac{15}{5}$

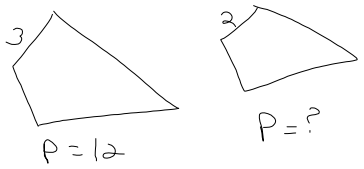
$\frac{x}{15} = \frac{4}{5}$

$5x = 60$

$x = 12$

Apr 26-10:32 AM

64



$\frac{3}{12} = \frac{2}{x}$

$3x = 24$

$x = 8$

Apr 26-10:34 AM

Condition $p \to q$ If cat, then meow

Converse $q \to p$ If meow, then cat

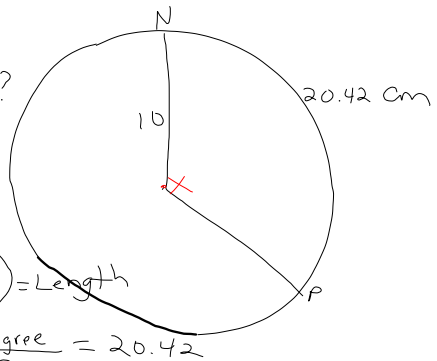
Inverse $\sim p \to \sim q$ If not cat, not meow

Contrapositive $\sim q \to \sim p$ If not meow, then not cat

Apr 26-10:40 AM

98

What is x?



$2\pi r\left(\frac{\text{Degree}}{360}\right) = \text{Length}$

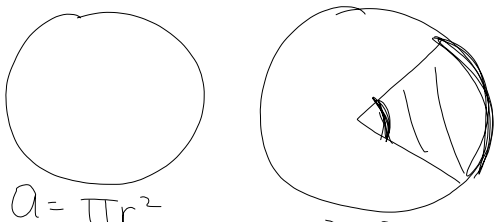
$\frac{2\pi(10)\,\text{Degree}}{360} = 20.42$

multiply both sides by 360

$\frac{\cancel{2\pi 10}(\text{Degree})}{\cancel{2\pi 10}} = \frac{7351.2}{2\pi 10}$

Degree = 117°

Apr 26-2:12 PM



$A = \pi r^2$

$C = d\pi$

$2\pi r$

$\pi r^2\left(\frac{\angle}{360}\right)$ Sector

$2\pi r\left(\frac{\angle}{360}\right)$ Length

Apr 26-2:18 PM