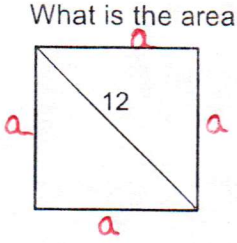
Name: _____ Date: _____ Period: _____

Geometry Bundle 13 Review

1. What is the area of the square?



$a^2 + a^2 = 12^2$

$2a^2 = 144$

$a^2 = 72$

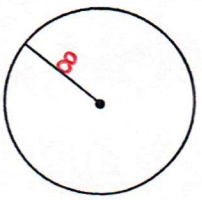
$a = 8.48528$

2. A dog is tied with a rope to a stake in the ground. The length of the rope is 8 yards. What is is the area, in square yards, in which the dog can roam?

$A = \pi r^2$

$= \pi (8)^2$

$= 64\pi$



3. What is the perimeter of a square whose area is 64 cm^2?

$s^2 = 64$ $P = 4s$

$s = 8$ $= 4(8)$

$P = 32$

4. What is the exact area of a circle whose circumference is 56π m?

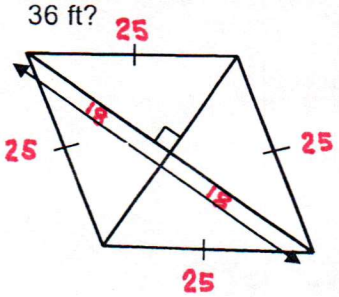
$56\pi = \pi \cdot 2r$

$r = 28$ $\pi \cdot 28^2$

$A = 784\pi$

5. What is the area of a rhombus whose perimeter is 100 ft and the longer diagonal is 36 ft?

$\frac{100}{4} = 25$



$18^2 + b^2 = 25^2$

$b = 17.35$

$\frac{36(34.6987)}{2}$

624.577

6. What is the area of the regular polygon below?

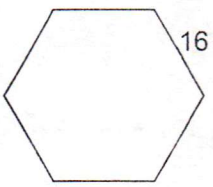
$a = 13.86$

$n = 6$

$s = 16$

$a = \frac{s}{2\tan\left(\frac{180}{n}\right)}$

$= 13.86$



$A = \frac{1}{2} \cdot a \cdot n \cdot s = 665.108$

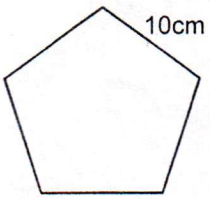
7. What is the approximate area of the regular polygon below?

$a = 6.88$

$n = 5$

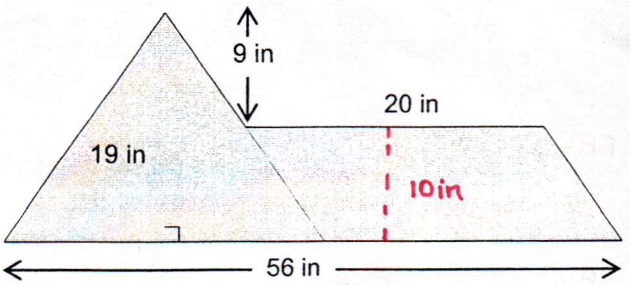
$s = 10$

$a = \frac{10}{2\tan\left(\frac{180}{5}\right)} = 6.88191$



$A = \frac{1}{2} \cdot 6.88 \cdot 5 \cdot 10 = 172$

8. Find the area of the composite shape below. (Hint: The height of the parallelogram is 10 in less than the height of the triangle.)



Triangle

$\frac{1}{2} \cdot 36 \cdot 19 = 342$

parallelogram

$A = b \cdot h$

$= 20 \cdot 10 = 200$

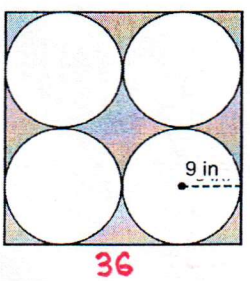
total

342

+200

542

9. What is the approximate area of the shaded portion of the tile?



square

$A = 36 \cdot 36 = 1296$

circle

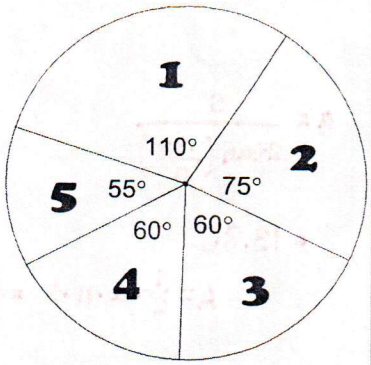
$A = \pi (9)^2 = 81\pi$

4 circles

$4(81)\pi = 324\pi$

Shaded $= 1296 - 324\pi = 278.124$

10. Given that the circle has a radius of 9 cm, what is the area of sector and length of the arc in section 5?



Area of sector

$A = \frac{N}{360}(\pi r^2)$

$= \frac{55}{360}(\pi)(9^2) = 12.38\pi$

Arc Length

$A = \frac{N}{360}(2\pi r)$

$= \frac{55}{360} \cdot 2 \cdot \pi \cdot 9 = 2.75\pi$

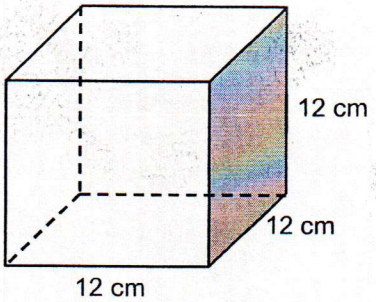
Find the volume and **total** surface area of each figure.

11. Volume = $V = Bh$

$B = 12^2 = 144$

$V = 144(12) =$

$= 1728$ cm



12. Surface area =

$S = Ph + 2B$

$= 48(12) + 2(144)$

$= 864$

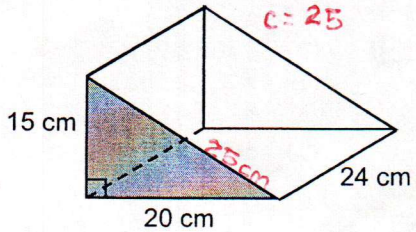
$P = 4(12) = 48$

13. Volume = Bh

$B = \frac{1}{2}(15)(20) = 150$

$V = 150(24)$

$= 3600$ cm



$15^2 + 20^2 = c^2$

$c = 25$

14. Surface area =

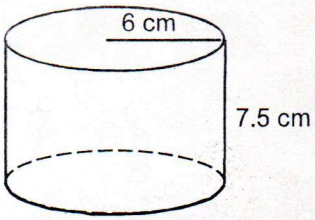
$S = Ph + 2B$

$= 60(24) + 2(150) = 1740$

$P = 15 + 20 + 25 = 60$

15. Volume = Bh

$= 36\pi(7.5) = 270\pi$



$B = \pi(6)^2 = 36\pi$

16. Surface area = $Ph + 2B$

$= 12\pi(7.5) + 2(36\pi)$

$= 162\pi$

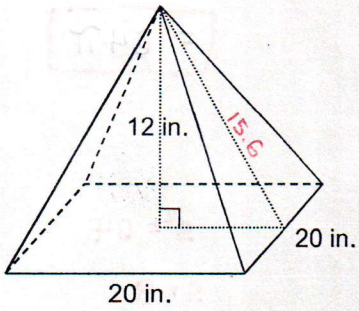
$P = 2\pi(6) = 12\pi$

17. Volume = $\frac{1}{3}Bh$

$B = 20^2 = 400$

$V = \frac{1}{3}(400)(12)$

$= 1600$



$12^2 + 10^2 = c^2$

$c = 15.62$

18. Lateral Surface area =

$L = \frac{Pl}{2}$

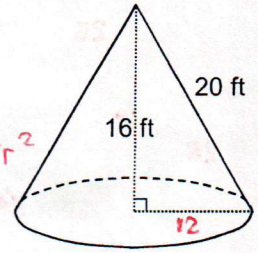
$= \frac{80(15.62)}{2} = 624.8$

$P = 4(20) = 80$

19. Volume = $\frac{1}{3}\pi r^2 h$

$= \frac{1}{3}\pi\ 12^2\ (16)$

$= 768$



$16^2 + b^2 = 20^2$

$b = 12$

20. Surface area = $\pi r l + \pi r^2$

$= \pi(12)(20) + \pi\ 12^2$

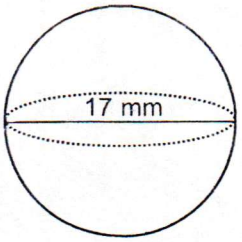
$= 384\pi$

r = 8.5

21. Volume = $\frac{4}{3}\pi r^3$

$= \frac{4}{3}\pi (8.5)^3$

$= 818.83\pi$



22. Surface area = $4\pi r^2$

$= 4\pi (8.5)^2$

$= 298\pi$

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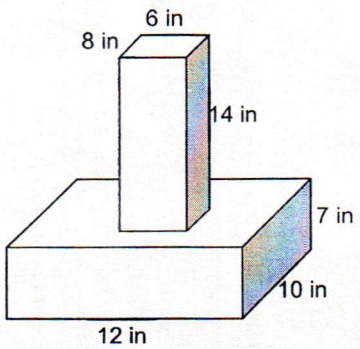
23. Volume = Bh



small prism

$V = 8 \cdot 6 \cdot 14$

$= 672$

big prism

$V = 12 \cdot 10 \cdot 7$

$= 840$

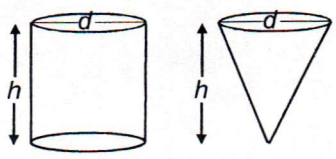
total

$672 + 840 = 1512$

24. Harry is covering a box with adhesive paper. The box measures 1.5 ft × 3.5 ft × 0.5 ft. What kind of calculation does Harry need to make?

total surface area

25. The volume of the cylinder shown is 480 cm^3. What is the volume of the cone?



cylinder

$V = Bh$

$V = \pi r^2 h$

cone

$V = \frac{1}{3}\pi r^2 h$

$V = \frac{1}{3}(480) = 160$