

GEOMETRY B

Area and perimeter WS

NAME _____

PERIOD _____

NOTES

- To find the perimeter of any shape, add all the side lengths.
- To find the area of a rectangle (or square): $Area = length \times width$ or $Area = base \times height$
- To find the area of a triangle: $Area = \frac{1}{2} \times base \times height$
- To find the area of a parallelogram: $Area = base \times height$

1. A rectangular game card has a length of 10 centimeters and a width of 5 centimeters. What is its perimeter? (add all 4 sides)
2. A parallelogram has a base of 3 inches and a height of 7 inches. What is its area?
3. A square-shaped garden has a side of 6 feet. What is its area?
4. A triangular-shaped yard has a base of 25 meters and a height of 12 meters. What is its area?
5. A triangle has side lengths of 9 inches and 7 inches and 5 inches. What is its perimeter?
6. A large rectangular window has a length of 8 feet and a width of 6 feet. What is its area?
7. The perimeter of a square is 220 centimeters. What is the length of each side?
8. If one side of a stop sign (octagon) measures 12 inches, then what is its perimeter?
9. All sides of a regular pentagon measure 10 inches. What is the perimeter?
10. A rectangular piece of paper has a width of 16 inches and an area of 192 square inches. What is its length? (setup equation, solve for length)
11. A square garden has a side of 22 meters. How many meters of fence are needed to enclose the garden?
12. A parallelogram has a base of 10 inches and height of 8 inches. What is the perimeter of the parallelogram?
13. A parallelogram has a base of 10 inches and height of 8 inches. What is the area of the parallelogram?

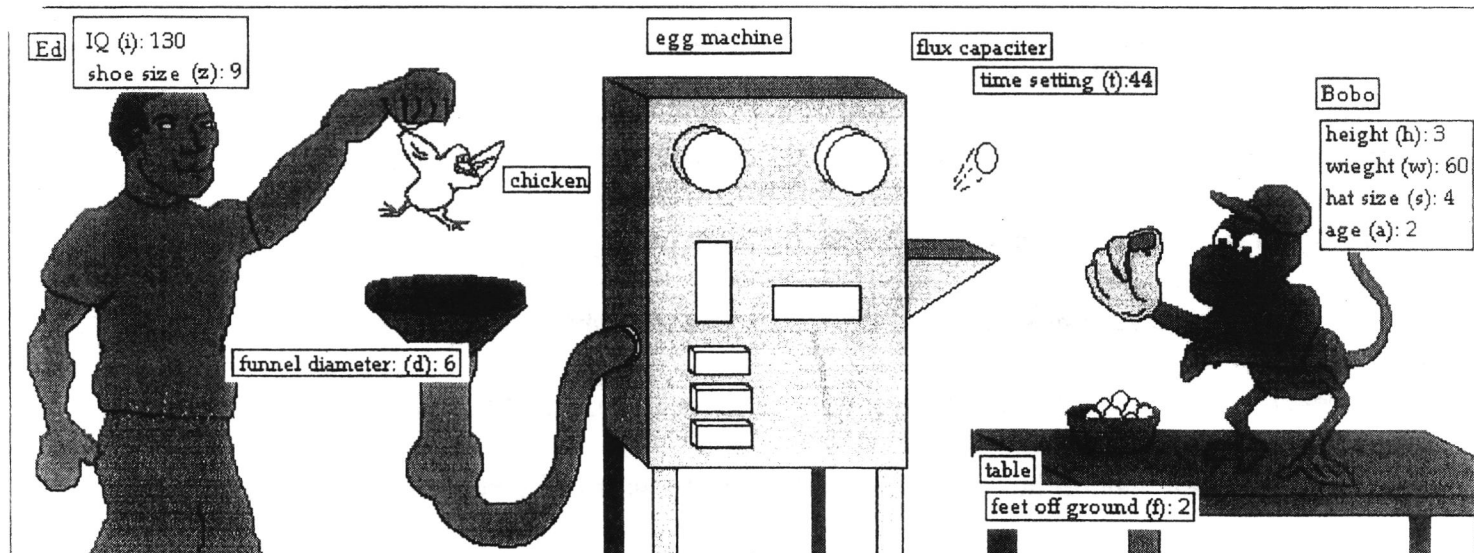
Look for the value of each variable in the picture
plug the values in and evaluate each problem

Example: $2z + d \rightarrow 2 \cdot 9 + 6 = 24$

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Abstract formula evaluation

Ed's egg company has developed a machine to produce the most eggs possible from the fewest chickens. Ed drops a chicken into the egg machine which extracts the eggs and shoots them out to Bobo, who puts the eggs in a basket for shipping. The variables which effect egg production are shown in the diagram below.



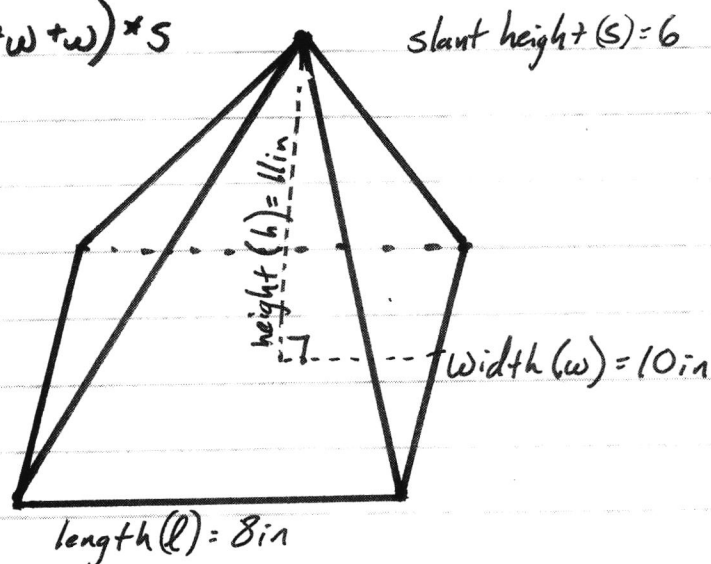
Use the information in the diagram above to find the following.

- | | | | |
|-------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------|
| 1. Grams of protein per egg.
$3h + 2i$ | 2. Cost per egg
$f^2 - 6z$ | 3. Expiration date
$w \cdot t + 4$ | 4. "Good" cholesterol count
$hd - a$ |
| 5. Number of chickens needed
To feed Indiana for a week
$3za - f$ | 6. Gravitational pull of the egg.
$w^2 + s + h$ | 7. Eccentricity of yolk
$h + i + z - t$ | 8. Bobo's number of uncles
$h^a + \frac{1}{2}d$ |
| 9. Chickens used per day
$tz - hf$ | 10. Electricity used by
egg-o-matic
$2(4h - 17)$ | 11. "Roundness" of the egg.
$(1 - h)^2$ | 12. Weight of the eggs.
$6z^3$ |
| 13. Number of stores that will
Buy Ed's eggs
$\frac{w}{s} + 6f$ | 14. Eggs produced per minute
$4(i + w)$ | 15. Ed's profit
$h(f - w)$ | 16. Number of black holes
made by egg-o-matic
$\frac{12}{d} + 2$ |
| 17. Eggs per carton
$hf - tz$ | 18. Time travel coordinates
$\frac{i + d}{s}$ | 19. "Urgenblitzen"
$w(i + t)$ | 20. "fdrtsq4nyk"
$twd - 7$ |

Find the surface area and volume of this pyramid:

$$\text{Surface area} = l \times w + \frac{1}{2}(l + l + w + w) \times s$$

$$\text{Volume} = \frac{1}{3} \times l \times w \times h$$



Find the surface area and volume of this sphere:

$$\text{Surface Area} = 4 \times \pi \times r \times r$$

$$\text{Volume} = \frac{4}{3} \times \pi \times r^3$$

