MATH 0482

Chapter 1.4 Algebraic Expressions and Formulas

Algebraic Expressions

$2x+3$ $\quad x^2-9$ $\quad \frac{1}{x}+\frac{x}{x+2}$ $\quad 3\sqrt{x}+x$

$x^2y^2+6xy-3$

TERM
COEFFICIENT
VARIABLE
CONSTANT

List the parts:

$10a^2-5ab-b^2$

Distributive Property: $a(b+c)=ab+ac$

Simplify $5(-2a+5b)-2c$.

Simplify $3(3x-4y+1)$.

Simplify $x^2-10x+8+5x^2-6x-1$.

Simplify $a^2b^2-ab-2(2a^2b^2-5ab+1)$.

Evaluate $5x-2$ when $x=\frac{2}{3}$.

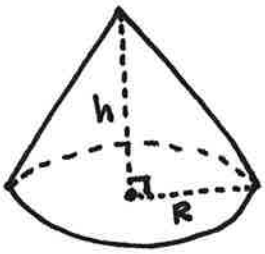
Evaluate y^2-y-6 when $y=-4$.

Evaluate a^3-8b^3 when $a=-1$ and $b=\frac{1}{2}$.

Evaluate $\frac{x^2-y^2}{2x-1}$ when $x=-\frac{3}{2}$ and $y=-3$.

Evaluate $\sqrt{b^2-4ac}$ when $a=-1$, $b=-7$, and $c=\frac{1}{4}$.

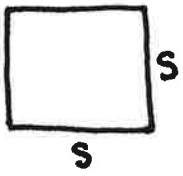
Using Formulas



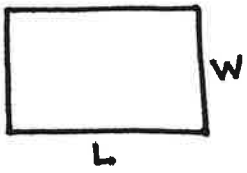
$V = \frac{1}{3}\pi R^2 h$

Find V if R=3m and h=5m.

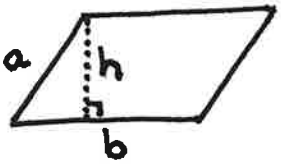
Square



Rectangle



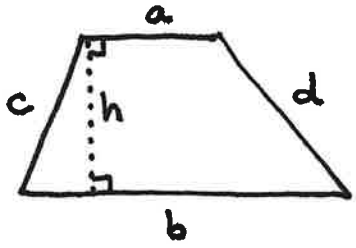
Parallelogram



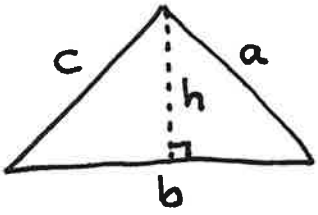
Perimeter

Area

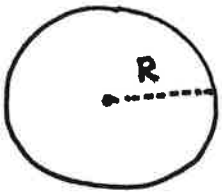
Trapezoid



Triangle

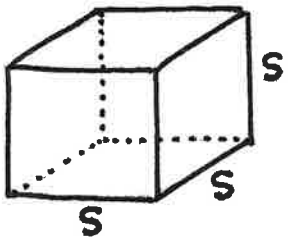


Circle

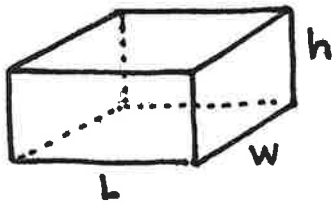


Surface Area
Volume

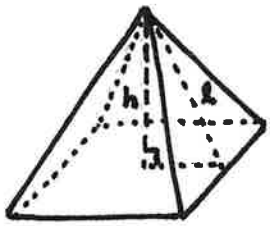
Cube



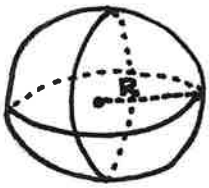
Prism



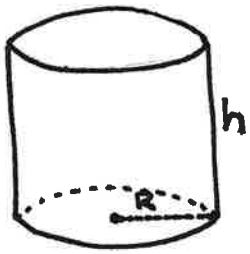
Pyramid



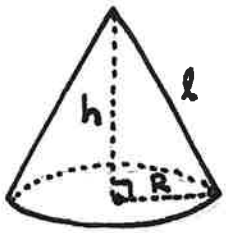
Sphere



Cylinder



Cone



Area of Sphere $4\pi r^2$

About 1923, Miss Gwendolyn Basler wrote this inside the front cover of her Calculus textbook while attending Iowa State Teacher's College, now the University of Northern Iowa.

THE DIAMETER OF A SPHERICAL BALLOON IS 10 INCHES. FIND ITS VOLUME TO THE NEAREST HUNDREDTH.

JIM DROVE FOR $2\frac{1}{2}$ HOURS AT AN AVERAGE SPEED OF 66 MILES PER HOUR. HOW FAR DID HE TRAVEL?

$$d = Rt$$

CALCULATE THE SIMPLE INTEREST EARNED ON $1250 AT AN ANNUAL INTEREST RATE OF $3\frac{3}{4}\%$ FOR 2 YEARS.

$$I = PRt$$