Quiz 5

Name: LUCIA CARCAMO **Perm Number:** 6185995

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)(2+h)$
$4+2h+2h+h^2$
$4+4h+h^2$

$((2+h)^2 - (2+h) + 2) - 2^2 - 2 + 2$
$4+4h+h^2-2-h+2-4$

$3h+h^2$

$(2+h)^2 - (2+h) + 2 - 4 - 2 + 2$
$4+4h+h^2-2-h+2-4-2+2$
$4h+h^2-h$
$3h+h^2$

$3h+h^2$

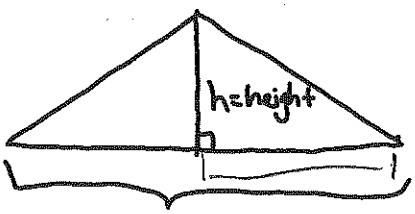
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$= (0^2-1) + (1^2-1) + (2^2-1) + (3^2-1) + (4^2-1)$
$= (-1) + (0) + (3) + (8) + (15)$
$= 10 + 15$
$= 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2}bh$

$10 = \frac{1}{2}bh$

$20 = bh$

$\frac{20}{h} = b$

PERIMETER =

$x + x + b = 2x + b$

$= 2\sqrt{\frac{100}{h^2} + h^2} + \frac{20}{h}$

$\left(\left(\frac{1}{2}\right)\left(\frac{20}{h}\right)\right)^2 + h^2 = x^2$

$\frac{10^2}{h} + h^2 = x^2$

$\frac{100}{h^2} + h^2 = x^2$

$x = \sqrt{\frac{100}{h^2} + h^2}$

Perimeter = $2\sqrt{\frac{100}{h^2} + h^2} + \frac{20}{h}$

Quiz 5

Name: Alicia Cabay **Perm Number:** 6666666320-2

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 - 2 + h + 2$

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

$4 + h^2 + 2 + h + 2$ $(h^2 + h + 4)$

$4 - h^2 + h + 4$

$h^2 + h$

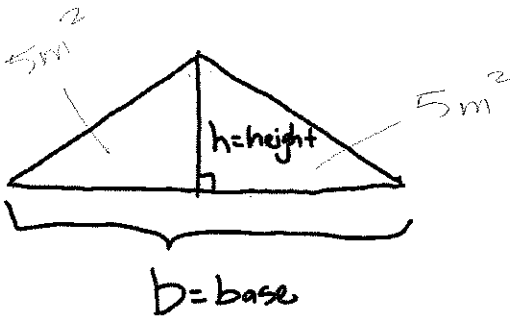
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1 \Rightarrow$

$\left(1 + \frac{n^2 - 1}{2}\right) = \frac{1 + 0^2 - 1}{2} = \frac{0}{2} = 0$

$\sum_{n=0}^{4} f(n) =$ 0

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$10 = h \times b$

$10 =$

Perimeter = $h+5$

Quiz 5

Name: emily cohen **Perm Number:** 5622949

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$f(x) = x^2 - x + 2$

$f(2) = 4 - 2 + 2 = 4$

$f(2+h) = (2+h)^2 - (2+h) + 2$

$= 4 + 4h + h^2 - 2 - h + 2$

$= 4 + 3h + h^2 \rightarrow h^2 + 3h + 4$

$f(2+h) - f(2) = h^2 + 3h + 4 - 4 = h^2 + 3h$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\left(\frac{n-1}{2}\right)n$

$(n+1)(n-1)$

$n = -1, 1$

$-1, 0, 3, 8$

$f(n) = n^2 - 1$

$= (0) - 1 = -1$

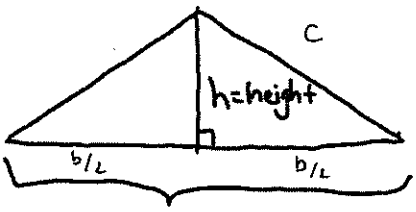
$= (1) - 1 = 0$

$= (2^2) - 1 = 3$

$= (3^2) - 1 = 8$

$\sum_{n=0}^{4} f(n) =$ $-1, 0, 3, 8$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2}bh$

$A = 10m^2$

$10 = \frac{1}{2}bh$

$20 = bh \quad b = 20/h$

$h^2 + \left(\frac{b}{2}\right)^2 = c^2$

$c = \sqrt{h^2 + \left(\frac{b}{2}\right)^2}$

b = base

$P = 2c + b$

$20/h + 2$

Perimeter = $\boxed{20/h + 2\left(\sqrt{h^2 + \left(\frac{b}{2}\right)^2}\right)}$

Quiz 5

Name: Brandy Rodriguez **Perm Number:** 6565634

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x=2$ x^2-x+2

$4-2+2$

$\boxed{4}$

x^2-x+2

$(2+h)(2+h)-(2+h)+2$

$4+2h+2h+h^2$

$4+4h+h^2-2+h+2$

$4+5h+h^2$

$5h+h^2+4-4$

$5h+h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

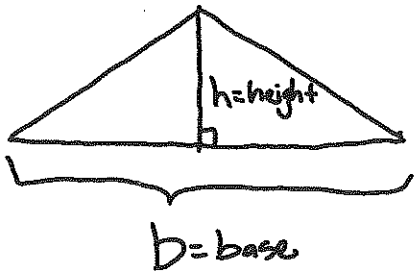
$\sum_{n=0}^{4} n^2-1$

$0, 1, 3, 8, 15$

$-1, 0, 3, 8, 15$

$\sum_{n=0}^{4} f(n) =$ $-1, 0, 3, 8, 15$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



I bet $5, Reason why I get this wrong is because I don't know the Perimeter of a triangle formula

$A = 1/2bh$ $P = ?$

$10m^2 = 1/2bh$

$20m^2 = bh$

$b = \frac{20}{h}$ plug into b in Perimeter formula.

$\frac{2}{3}bh^2$ $1/2bh^2$ $3/2bh^2$

$3/2bh$

$P = 3/2bh^2$

$3/2bh$

$2/3bh$

$P = \frac{3}{2}bh^2$

$P = \frac{3}{2}\left(\frac{20}{h}\right)h$

$P = \frac{60}{2h} \cdot h^2$

$P = 30h$?

It's funny but it also sucks because I know how to do this problem.

Perimeter = $30h$

Quiz 5

Name: C'KRET LINDSEY **Perm Number:** 03601232

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2x^2 - 2x + 2$

$4x - 2x + 2$

$\frac{2x+2}{2}$

$2x + h^2 - 2x + h + 2$

$2h^2$

$\frac{4h^2 + 2}{4}$

$h = 1$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

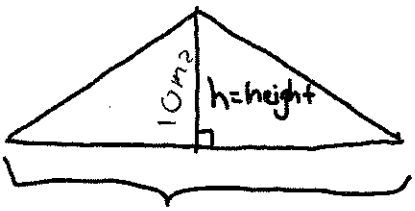
$\frac{n+1}{2}$

$4(0^2 - 1)$

$4(0+3)$

$\sum_{n=0}^{4} f(n) = 4(0+3) = -12$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figure below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$P = 2l + 2w$

$c^2 = a^2 + b^2$

$c^2 = 10^2 + b^2$

Perimeter = $\sqrt{\frac{10^2 - h}{2}}$

Quiz 5

Name: Crystal Mendoza **Perm Number:** 4138483

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

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

$(2+h)^2 - (2+h) + 2$
$(4+4h+h^2) - 2 - h + 2$
$4 - 2 + 2 + 4h - h + h^2$
$2 + 2 + 3h + h^2$
$4 + 3h + h^2$
$h^2 + 3h + 4$

$-(2+h)$
$-2-h$

$(2+h)(2+h)$
$4+2h+2h+h^2$
$4+4h+h^2$

$h^2 + 3h + 4 - 4$
$h^2 + 3h$

$h^2 + 3h$

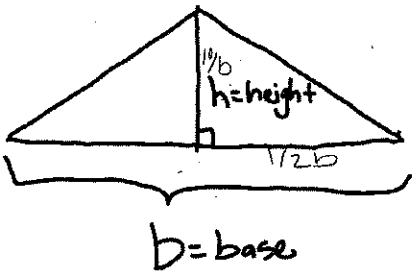
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$n=0$	$n=1$	$n=2$	$n=3$	$n=4$
0^2-1	1^2-1	2^2-1	3^2-1	4^2-1
$0-1$	$1-1$	$4-1$	$9-1$	$16-1$
-1	0	3	8	15

$\sum_{n=0}^{4} f(n) =$ 15

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = b \cdot h$ 2

$A = 10m$

$\frac{10}{b} = \frac{b}{b} \cdot h$

$h = \frac{10}{b}$

Perimeter = [ ]

Quiz 5

Name: Miliani Leyva-Benitez **Perm Number:** 3954126

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)(2+h)$

$4+2h+2h+h^2$

$4+4h+h^2$

$(2+h)^2 - 2+h+2$

$4+4h+h^2 - 2+h+2$

$= 4+5h+h^2$

2

$2^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2$

$= 4$

$4-4+5h+h^2$

$= 5h+h^2$

$5h+h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

0^2-1 1^2-1 2^2-1 3^2-1 4^2-1

-1 0 3 8 15

$\sum_{n=0}^{4} n^2 - 1$

$-1, 0, 3, 8, 15$

$-1+0+3+8+15$

$2+8+15$

$10+15$

$\sum_{n=0}^{4} f(n) =$ 25

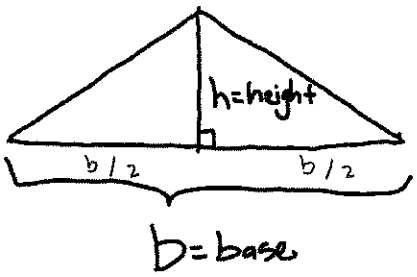
$\frac{1}{2}\left(\frac{5}{2}\cdot 2\right)$ $\frac{1}{2}\left(\frac{2}{2}\cdot 5\right)$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.

$A = \frac{1}{2}bh$ $5 = \frac{1}{2}bh$ $P =$

$A = 10m^2$ $\frac{1}{2}(5\cdot 2)$

$\frac{1}{2}$ $h = b$



$\left(\frac{b}{2}\right)\left(\frac{b}{2}\right)$

$\frac{b^2}{4}$

$h^2+(b/2)^2 = c^2$

$h^2 + \frac{b^2}{4} = c^2$

$h^2 + \frac{b^2}{4} - c^2 = 0$

$\frac{b^2}{4} - c^2 = h^2$

$\sqrt{\frac{b^2}{4} - c^2} = h$

2 triangles

$2\left(\sqrt{\frac{b^2}{4} - c^2}\right) = h$

$2\left(\frac{b}{2} = c\right) = h$

$\frac{2b}{4} - c = h$

$\frac{b}{2} - c = h$

Perimeter = $h = \frac{2b}{4} - c$

Quiz 5

Name: Anahi Pimentel **Perm Number:** 4205688

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2$

$= 4$

$(2+h)^2 - (2+h) + 2$

$4h - h = 3h$

$h^2 + 4h + 4 - (2+h) + 2$

$h^2 + 4h + 4 - 2 - h + 2$

$h^2 + 3h + 4$

$h^2 + 3h + 4 (- 4)$

$= h^2 + 3h$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$4 + 4h + h^2$

$h^2 + 4h + 4$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$0^2 - 1 = -1$

$1^2 - 1 = 0$

$2^2 - 1 = 4 - 1 = 3$

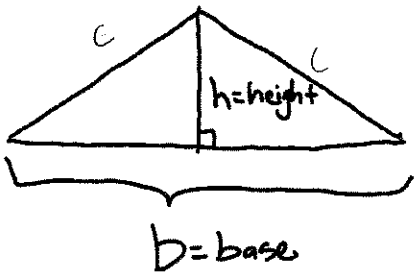
$3^2 - 1 = 9 - 1 = 8$

$4^2 - 1 = 16 - 1 = 15$

15
+ 8
23
+ 3
+ 26
- 1
25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$b \cdot h \quad \frac{1}{2}b \cdot h$

$2 \cdot 10m^2 = \frac{1}{2}(b \cdot h) \cdot 2$

$20m^2 = b \cdot h$

$\frac{20m^2}{h} = b$

$h^2 + b^2 = c^2$

$h^2 + \left(\frac{20m^2}{h}\right)^2 = c^2$

$\frac{h^2}{1} \cdot \frac{h^2}{h^2} + \frac{400m^4}{h^2} = c^2$

$\frac{h^4}{h^2} + \frac{400m^4}{h^2} = \frac{\sqrt{400m^2 + h^4}}{h^2} = c^2$

$\frac{20m^2 + h^2}{h} = c$

Perimeter = $2\left(\frac{20m^2 + h^2}{h}\right) + \frac{20m^2}{h}$

Quiz 5

Name: Annalise Evans **Perm Number:** 5301023

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 2 + 2 = 4$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h)$

$4 + 4h + h^2 - 2 - h + 2$

$h^2 + 3h + 4$

$h^2 + 3h + 4 - 4$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$1 + 0 + 3 + 8 + 15$

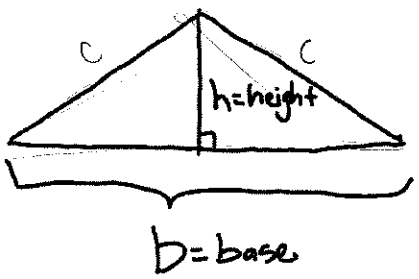
$0 \quad 1 \quad 2 \quad 3 \quad 4$

25

$15 + 8 + 3 = 26 - 1 = 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2}bh$

$10 = \frac{1}{2}bh$

$\frac{20}{h} = b$

$P = 2C + B$

$P = \frac{20}{h} + 2\sqrt{h^2 + \frac{100}{h^2}}$

$h^2 + \left(\frac{1}{2}\frac{20}{h}\right)^2 = c^2$ $\quad h^2 + \left(\frac{10}{h}\right)^2 = c^2$

$c^2 = h^2 + \frac{100}{h^2}$ $\quad \sqrt{h^2 + \frac{100}{h^2}} = \sqrt{c^2}$

$\sqrt{c^2} = \sqrt{h^2 + \frac{100}{h^2}}$

Perimeter = $\boxed{\frac{20}{h} + 2\sqrt{h^2 + \frac{100}{h^2}}}$

Quiz 5

Name: Katelyn Cole **Perm Number:** 9782947

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 + (2+h) + 2$

$(2+h)(2+h)$

$4 + 4h + h^2 \cancel{-2 - h + 2}$

$h^2 + 3h + 4$

$h^2 + 3h + 4$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

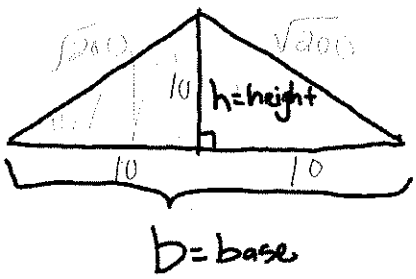
$0, 1, 2, 3$

$0^2 - 1 \quad 1^2 - 1 \quad 2^2 - 1 \quad 3^2 - 1$

$= -1 \quad = 0 \quad = 3 \quad = 8$

$\sum_{n=0}^{4} f(n) =$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



b=base

$A = \frac{1}{2}bh$

$2 \cdot 10 = \frac{1}{2}bh \cdot 2$

$\frac{20}{b} = \frac{bh}{b}$

$b = 10 \quad h = 10$

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

$100 + 100 = c^2$

$\sqrt{200} = \sqrt{c^2}$

Perimeter = 30 m

Quiz 5

Name: Stephane Mita **Perm Number:** 8038481

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$$(2+h)^2 - (2+h) + 2$$

$$(2+h)(2+h) = 4 + 2h + 2h + h^2 - 2 - h + 2$$

$$= 4 + 4h + h^2 - h$$

$$= 4 + 3h + h^2$$

$4 + 3h + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$$\sum_{n=0}^{4} n^2 - 1 = \sum_{n=0}^{4} n^2 + \sum_{n=0}^{4} -1$$

$$\frac{n(n+1)(2n+1)}{6} = \frac{4(4+1)(2(4)+1)}{6} = \frac{4(5)(9)}{6} = \frac{180}{6} = 30$$

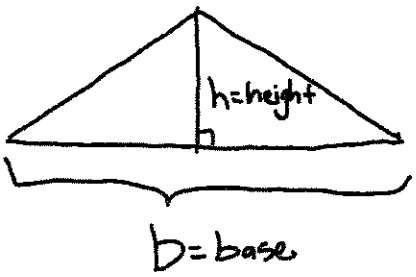
$20 \times 9 = 180$

$$\sum_{n=0}^{4} -1 = \underbrace{-1-1-1-1-1}_{n=0 \text{ to } n=4} = -5$$

$30 - 5 = 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.

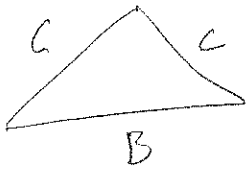


$A = \frac{1}{2}bh$

$\frac{10}{h} = \frac{\frac{1}{2}bh}{h}$

$2 \cdot \frac{1}{2}B = \frac{10}{h}(2)$

$B = \frac{20}{h}$



$a^2 + b^2 = c^2$

$h^2 + b^2 = c^2$

$\sqrt{h^2 + \left(\frac{20}{h}\right)^2} = \sqrt{c^2}$

$c = \sqrt{h^2 + \frac{400}{h^2}}$

Perimeter $= B + 2(C)$

$= \frac{20}{h} + 2\sqrt{h^2 + \frac{400}{h^2}}$

Perimeter = $\boxed{\frac{20}{h} + 2\sqrt{h^2 + \frac{400}{h^2}}}$

Quiz 5

Name: Sebastian **Perm Number:** 5976220

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x = 2$ → $x = 2+h$

$2^2 - 2 + 2 = 4$

$x_2 = 4$ x_{2+h}

$(2+h)(2+h)$ $4+2h+2h+h^2$ $(2+h)^2 - (2+h) + 2$

$4+4h+h^2-2-h+2$ $4+4h+h^2-2+h+2$

$4+5h+h^2$ $4+3h+h^2$

-4 -4

$5h+h^2$ $3h+h^2$

$3h+h^2$

$3h+h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$f(n) = n^2 - 1$

$\sum_{n=0}^{4}$

$-1+0+3+8+15$

$-1+3=2+8=10+15=25$

$0^2 - 1$

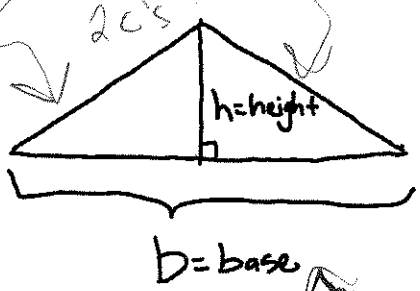
$1^2 - 1$ $4^2 - 1$ 15

$2^2 - 1$ $3^2 - 1$ 8

$4 - 3$

$\sum_{n=0}^{4} f(n) =$ $-1+0+3+8+15=25$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$2\left(\frac{1}{2}bh=10\right)2$

$\frac{bh}{2}=10$

$bh=20$

$b=20/h$

$\frac{20=bh}{h}$

$b=\frac{20}{h}$

$2(20/h+h)$

$\frac{1}{2}$

$b^2+h^2=c^2$

$2\sqrt{(20/h)^2+h^2}=c^2$

$b+c+c=\text{perimeter}$

$\frac{20}{h}+\frac{20}{h}+h+\frac{20}{h}+h$

$40/h+2h+20/h$

$2(20/h+h)+20/h$

$\frac{60}{h}+2h$

$\frac{40}{h}+\frac{20}{h}+2h$

$2\sqrt{(20/h)^2+h^2}$

$\frac{60}{h}+2h$

Perimeter = $\boxed{\frac{60}{h}+2h}$

Quiz 5

Name: Zihu Zhu **Perm Number:** 5381462

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 - (2+h) + 2 \quad - 4 + 2 - 2$

$4 + h^2 + 4h - 2 - h + 2 \quad - 4 + 2 \quad - 2$

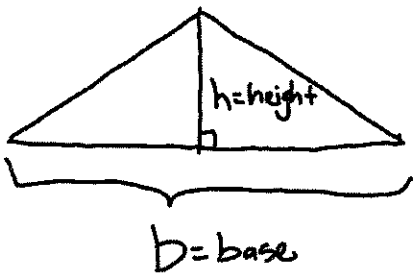
$h^2 + 4h - h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$-1 + 0 + 3 + 8 + 15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$$2 \times \sqrt{\left(\frac{b}{2}\right)^2 + h^2} + b$$

$$\frac{b^2}{4} + h^2$$

$$\frac{b^2}{4}$$

Perimeter = $2 \times \sqrt{\frac{b^2}{4} + h^2} + b$

Quiz 5

Name: Colin Gallivan **Perm Number:** 5862735

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x=2$

$(2)^2 - 2 + 2$

$4 - 2 + 2$

$= 4$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h) - 2 - h + 2$

$4 + 2h + 2h + h^2 - h + 2$

$h^2 + 3h + 4$

$h^2 + 3h +$ $h(h+3)$

h^2+3h

or $h(h+3)$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

0.) -1

1.) 0

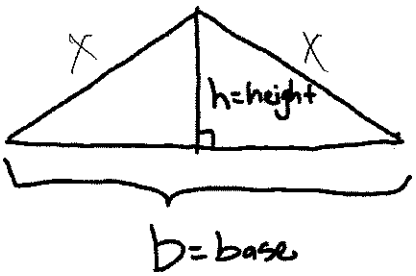
2.) 3 $2+6=10+15=25$

3.) 8

4.) 15

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = bh\frac{1}{2}$ $\quad P = b + 2x$

$10 = bh\frac{1}{2}$

$\frac{20}{b} = \frac{bh}{b}$

$x^2 = h^2 + \frac{1}{2}b^2$

$\sqrt{x^2} = \sqrt{h^2 + \left(\frac{1}{2}b\right)^2}$

$x = \sqrt{h^2 + \frac{b^2}{2^2}}$

$x = \sqrt{h^2 + \frac{b^2}{4}}$

$4(x^2 - h^2) = \frac{b^2}{4}\,4$

$\sqrt{4x^2 - 4h^2} = \sqrt{b^2}$

$b = \sqrt{4x^2 - 4h^2}$

$x = h^2 + \sqrt{4}$

$x = \sqrt{h^2 + \frac{\left(\frac{20}{b}\right)^2}{4}}$

$x^2 = h^2 + \frac{1}{2}b^2$

$-h^2$

$4\left(\frac{b^2}{4}\right) = (x^2 - h^2)\,4$

$\sqrt{b^2} = \sqrt{4x^2 - h^2}$

$b = \sqrt{4x^2 - h^2}$

$\sqrt{4\left(h^4 + \frac{b^4}{16}\right) - h^2}$

$= \sqrt{4\left(h^4 + \frac{b^4}{16}\right) - h^2}$

$b = \sqrt{4h^4 + 4\frac{b^4}{16}) - h^2}$

$P = \frac{20}{h}$

$P =$

Perimeter $= \boxed{\frac{20}{h} + 2\left(\sqrt{h^2 + \frac{\left(\frac{20}{h}\right)^2}{4}}\right)}$

Quiz 5

Name: Kellen Beckett **Perm Number:** 4794466-5

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 2 + 2$

4 $\longrightarrow$ $(2+h)(2+h) - (2+h) + 2$

$4 + 4h + h^2 - 2 - h + 2$

$h^2 + 3h$

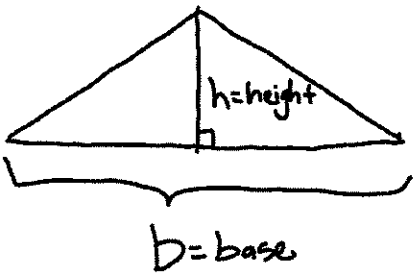
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$(0^2 - 1), (1^2 - 1), (2^2 - 1), (3^2 - 1), (4^2 - 1)$

$-1, 0, 3, 8, 15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$\left(\frac{1}{2}b\right)^2 + h^2 = c^2$

$\sqrt{(.5b)^2 + h^2} = c$

$\frac{1}{2}bh = 10$

$\frac{1}{2}b = \frac{10}{h}$

$b = \frac{20}{h}$

$\frac{1}{2}bh = 10$

$P = 2\left(\sqrt{(.5b)^2 + h^2}\right) + b$

$\frac{1}{2}\frac{b}{10}$

$P = 2\left(\sqrt{\left(\frac{20}{h}\right)^2 + h^2}\right) + \frac{20}{h}$

Perimeter = $\boxed{}$

Quiz 5

Name: Alvaro Marquez **Perm Number:** 659-6506

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 - 2+h+2$

$2+h$
$2 \quad 2h$
$h \quad 2h \quad h^2$

$h^2+4h+4-2+h+2$

$h^2+4h+2+h+2$

h^2+5h+4

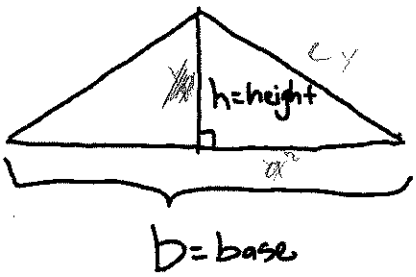
h^2+5h+4

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$0^2-1=-1$
$1^2-1=0$
$2^2-1=3$
$3^2-1=8$
$4^2-1=15$

$\sum_{n=0}^{4} f(n) =$ $-1, 0, 3, 8, 15$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10m^2$ $h \times b$

$a^2+b^2=c^2$

$\frac{b}{2} \cdot h =$ $\left(\frac{b}{2}\right)^2 \cdot h^2 = c^2$

$\sqrt{a^2+b^2}=\sqrt{c^2}$

$\frac{b}{2} \cdot h$ $10 = a \cdot b \cdot c$

$10 = \frac{b}{2} \cdot h \cdot c$

$\frac{b}{2} \cdot h$

Perimeter = $\frac{10}{\frac{b}{2} \cdot h}$

Quiz 5

Name: ErickCastillo **Perm Number:** 6900857

PEMDAS

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 4$

0

$(2+h)^2 - 2+h+2$

$4+h^2 - 2+h+2$

$7+h^3$

$(2+h)^2 - 2+h+2$

$4+h^2 - 2+h+2$

$2+2+h^2+h$

$4+h^3$

$4+h^3$

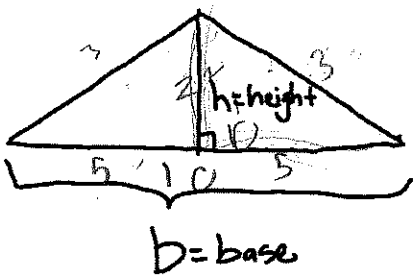
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$0^2-1, 1^2-1, 2^2-2, 3^2-3, 4^2-4$

$\sum_{n=0}^{4} f(n) =$ $0^2-1, 1^2-1, 2^2-1, 3^2-1, 4^2-1$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



b=base

$A = \frac{b \cdot h}{2}$

$\frac{b \cdot h}{2} = 10_m{}^2$

$P = h + b +$

TA = $20m^2$

$A = \frac{b \cdot h}{2}$ $P =$

$b \cdot h = 20_m{}^2$

$a^2 + b^2 = 10^2$

$a^2 + b^2 = 100$

$2^2 + 10^2 = 10^2$

$4 + 100 = 100$

$\frac{20m^2}{h} = ?$

$a^2 + b^2 = c^2$

$5^2 + 2^2 = 29$

$b + h + h$

Perimeter = $h(2) + b(2)$

Quiz 5

Name: Mariah Ford **Perm Number:** 6144893

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2 = 4$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h) - (2+h) + 2$

$4 + 4h + h^2 - 2 + h + 2$

$4 + 5h + h^2$

$4 - 4 + 5h + h^2$

$5h + h^2$

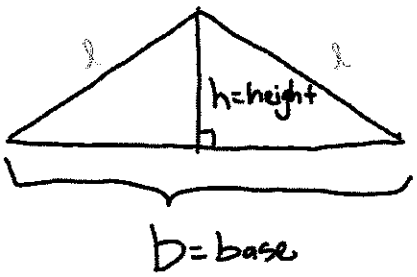
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$(0^2 - 1), (1^2 - 1), (2^2 - 1), (3^2 - 1)$

(-1) 0 3 8

$\sum_{n=0}^{4} f(n) =$ $-1, 0, 3, 8$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$p = b + 2l$

$10 = b \cdot l \cdot h$

$b = \frac{l \cdot h}{10}$

$\left(\frac{b}{2}\right)^2 + h^2 = l^2$

$h = \sqrt{\left(\frac{b}{2}\right)^2 + l^2}$

Perimeter = $\left(\sqrt{\left(\frac{b}{2}\right)^2 + l^2}\right) \times 2$

Sorry :(

Quiz 5

Name: Sydney Bivins **Perm Number:** 6358386

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

x	$2+h$
x^2-x+2	?

0	$2+0h$
1	$2+1h$
2	.

increases by $2h$

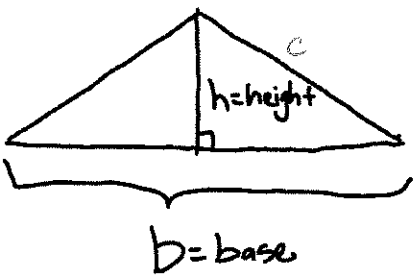
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$0^2 - 1 = -1$
$1^2 - 1 = 0$
$2^2 - 1 = 3$
$3^2 - 1 = 8$
$4^2 - 1 = 15$

} 25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$h^2 + \left(\frac{b}{2}\right)^2 = c^2$

$\left(\frac{b}{2}\right)^2 = c^2 - h^2$

$h \times \frac{b}{2} = 10\,m^2$

$2 \times \frac{hb}{2} = 10\,m^2 \times 2$

$hb = 20\,m^2$

$b = \frac{20\,m^2}{h}$

sorry, we did something like this on the midterm and I couldn't do it :(

Perimeter = $\frac{20\,m^2}{h} + 2h$

Quiz 5

Name: Toha Hossain **Perm Number:** 5757406

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2 = 4$

$(2+h)^2 - 2 - h + 2$

$4 + 4h + h^2 - 2 - h + 2$

$3h + h^2$

$4 + 3h + h^2 - 4$

$3h + h^2$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$3h + h^2$ or $3 + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} f(n) \Rightarrow 0^2 - 1 ; 1^2 - 1 ; 2^2 - 1 ; 3^2 - 1 ; 4^2 - 1$

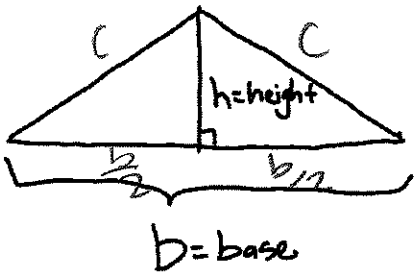
$0 \quad 1 \quad 4 \quad 9 - 1 \quad 16 - 1$

$-1 \quad 0 \quad 3 \quad 8 \quad 15$

$\sum_{n=0}^{4} f(n) \Rightarrow 0^2 - 1 ; 1^2 - 1 \ldots 3^2 - 1 ; 4^2 - 1 \Rightarrow$

$\sum_{n=0}^{4} f(n) = -1 ; 0 ; 3 ; 8 ; 15$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{bh}{2} \Rightarrow 10m^2$

$c^2 = \left(\frac{b}{2}\right)^2 + \left(\frac{b}{2}\right)^2$

$10 = \frac{bh}{2} \Rightarrow 20 = bh \Rightarrow b = \frac{20}{h}$

$c^2 + h^2 + \frac{b^2}{2}$

$P = c + 2b + h$

$\frac{1}{2}b$

$= + 2\left(\frac{20}{h}\right) + h$

$c = \sqrt{\left(\frac{20}{h}\right)^2 + \frac{1}{2}^2}$

$\sqrt{\frac{40}{h} + \frac{1}{4}}$

Perimeter = $\boxed{\frac{40}{h} + h + \sqrt{\frac{40}{h} + \frac{1}{21}}}$

Quiz 5

Name: Odalys Ordaz **Perm Number:** 6065536

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2 = 4$

$(2+h)^2 - 2 + h + 2$

$4 + h^2 - 2 + h + 2$

$4 - 2 + 2 + h^2 + h$

$4 + h^2 + h$

$4 + h^2 + h$

-4

$0 + h^2 + h$

$h^2 + h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$. 1, 2, 3, 4

$1^2 - 1 = 0$

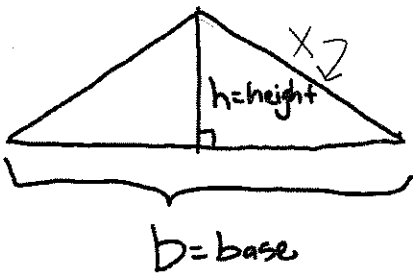
$2^2 - 1 = 3$

$3^2 - 1 = 9 - 1 = 8$

$4^2 - 1 = 16 - 1 = 15$

$\sum_{n=0}^{4} f(n) =$ 0, 3, 8, 15

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$$\left(\frac{b}{2}\right)^2 + h^2 = x^2$$

$$x^2 = (b/2)^2 = h^2$$

$$\frac{b \times h}{2} = 10m^2$$

Perimeter = $\boxed{}$

Quiz 5

Name: Samantha Stevens **Perm Number:** 5113980

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$$\frac{(2+h)^2-(2+h)+2}{h}$$

$(2)^2-(2)+2$

$4-2+2=4$

$$\frac{4+2h+h^2-2-h+2}{h}$$

$4-2+2=4$

$$\frac{4+h+h^2}{h}$$

$4+h$

$4+h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$f(0) = (0)^2 - 1 = -1$

$f(1) = (1)^2 - 1 = 1-1 = 0$

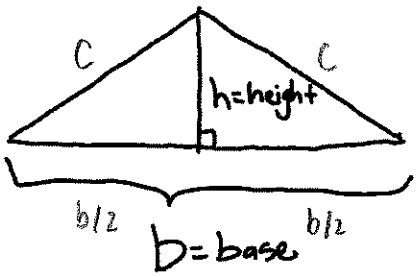
$f(2) = (2)^2 - 1 = 4-1 = 3$

$f(3) = (3)^2 - 1 = 9-1 = 8$

$f(4) = (4)^2 - 1 = 16-1 = 15$

$\sum_{n=0}^{4} f(n) =$ $a_{-1}, a_0, a_3, a_8, a_{15}$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2}bh$

$(10 = \frac{1}{2}bh)2$

$a^2 + b^2 = c^2$

$(\frac{b}{2})^2 + (h)^2 = c^2$

$b = \frac{20}{h}$

$\sqrt{\frac{b}{2}^2 + h^2} = c^2$

$\sqrt{\frac{b}{2} + h} = c$

$\frac{20}{h} + h$

$\sqrt{\frac{40}{h} + 2h + \frac{40}{h}}$

Perimeter = $\sqrt{\frac{40}{h} + 2h + \frac{40}{h}}$

Quiz 5

Name: Jessica Amezcua **Perm Number:** 5714381

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 - (2+h) + 2$

$4 + h^2 - 2 + h + 2$

$2 + h^2 + h + 2$

$4 + h^2 + h$

$2^2 - 2 + 2$

$4 - 2$

$2 + 2 = 4$

$4(2+h)$

$8+h?$

$8+h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$\sum (0^2-1) + (1^2-1) + (2^2-1) + (3^2-1)$

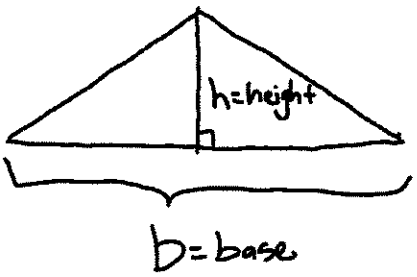
$-1 + 0 + 3 + 8$

$-1 + 11$

10

$\sum_{n=0}^{4} f(n) =$ 10

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2} b \cdot h$

$10 = \frac{1}{2} b \cdot h$

$P = 2b + h$

$h = \frac{20}{b}$

$\frac{10}{h} = \frac{\frac{1}{2} b}{1}$

$\frac{20}{h} = b$

$\frac{10h^{-1}}{\frac{1}{2}}$

$2 \times \left(\frac{20}{h}\right) +$

$P = 2\left(\frac{20}{h}\right) + \frac{20}{b}$

Perimeter = $\boxed{\frac{40}{h} + \frac{20}{b}}$

Quiz 5

Name: Vivian de waard **Perm Number:** 5117530

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 - 2+h+2$

$(2+h)(2+h)$

$4 + 4h + h^2 - 2 - h + 2$

$h^2 + 3h$

$x \to 4$

1 originally for $x=2$

$h^2 + 3h - 4$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$0 \to -1$

$1 \to 0$

$2 \to 3$

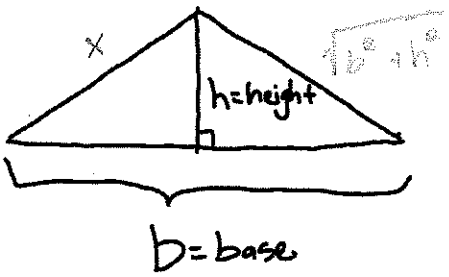
$3 \to 8$

$4 \to 15$

$15 + 8 + 3 - 1 = 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$10\ m^2 = a$

$a = \frac{b \cdot h}{2}$ $\quad 10 = \frac{b \cdot h}{2}$

$P = b + x + x$

$\frac{20}{h} = \frac{b \cdot h}{h}$

$\frac{1}{2} b^2 + h^2 = x^2$

$b = \frac{20}{h}$

$x = \sqrt{\frac{1}{2}b^2 + h^2}$

$P = \frac{20}{h} + 2\sqrt{\frac{20}{h} + h^2}$

$\frac{20}{h} + 2\sqrt{\left(\frac{10}{h}\right)^2 + h^2}$

$\frac{1}{2} b^2$

$\frac{1}{2} \cdot \frac{20}{h} \Rightarrow \left(\frac{10}{h}\right)^2$

Perimeter = $\boxed{2\sqrt{\frac{100}{h^2} + h^2} + \frac{20}{h}}$

Quiz 5

Name: Ray HERNANDEZ **Perm Number:** 5714902

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

4

$(2+h)^2 - 2 + h + 2$

$4 + h^2 + h$

$4 + h^2 + h$

$-\ \ 4$

$h^2 + h$

$-(2+h) + 2$

$4 + h^2 + h$

$-\ \ 4$

$h^2 - h$

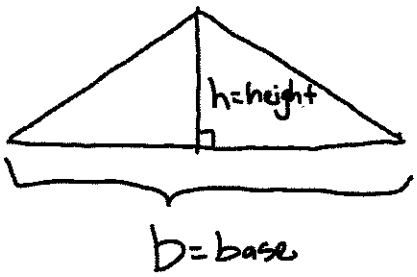
$h^2 - h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{N=0}^{4} N^2 - 1$

$\sum_{n=0}^{4} f(n) =$ -1

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$bh\,1/2$ $\quad \frac{1}{2}bh = \text{Area}$

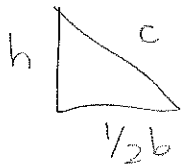
$P = 2\left(\sqrt{h^2 + 1/2\,b^2}\right) + b$

$P = \frac{10m^2}{}$

$10m^2 = 1/2\,bh$

$20m^2 = bh$

$\frac{20m^2}{h} = b$



5

$P = 2\left(\sqrt{h^2 + \frac{1}{2}\left(\frac{20m^2}{h}\right)}\right) + \frac{20m^2}{h}$

$P = 2\left(h + \sqrt{\frac{20m^2}{2h}}\right) + \frac{20m^2}{h}$

Perimeter = $\boxed{2\left(h + \sqrt{\frac{20m^2}{h}}\right) + \frac{20m^2}{h}}$

Quiz 5

Name: Hidei Spanhe **Perm Number:** 5958525

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2+h$

$2^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2$

4

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$4 + 4h + h^2 - 2 - h + 2$

$\frac{5h + h^2 + 4}{4}$

$4 \rightarrow 5h + h^2 + 4$

$\frac{5h + h^2 + 4}{4}$

$5h + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

0 1 2 3 4

$-1, 0, 3, 8, 15$

$f(0) = 0^2 - 1 = -1$

$f(1) = 1^2 - 1 = 0$

$f(2) = 2^2 - 1 = 3$

$f(3) = 3^2 - 1 = 8$

$f(4) = 4^2 - 1 = 15$

$15 + 8 + 3$

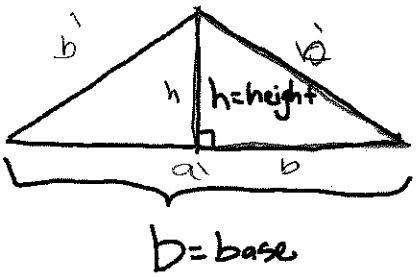
$23 + 3$

$26 + 0 - 1$

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2}bh$

$10m^2 = \frac{1}{2}bh$

$\frac{20}{h} = \frac{bh}{h}$

$\frac{20}{h} = b$

$c^2 = b^2 + h^2$

$\sqrt{c^2} = \left(\frac{20}{h}\right)^2 + h^2$

$c = \sqrt{\frac{20}{h} + h^2}$

$P = a + b' + b'$

$P = 2b' + a$

$\sqrt{\frac{20^2}{h} + h^2} + \frac{20}{h} + h$

Perimeter = $2\sqrt{\frac{20^2}{h} + h^2} + \frac{20}{h}$

Quiz 5

Name: Max Levin **Perm Number:** 4984886

$2+h^2-2+h+2$

1) If x is increased from 2 to $2+h$, how much does x^2-x+2 increase? Your final answer should be in terms of h.

$x \to 2$

$(h^2+2)(2+h)$

$2h^2+h^2+4+2h$

$4h+h^2+4$

$2+h^2-2+h+2$

$2+h^2+h$

h^2+h+2

$(h+1)^2$

$(h+1)(h+1)$

$h^2+h+h+1$

2^2-2+2

$4-2+2$

$2+h$

4

h^2+h+2

$4h+h^2+4-2+h+2$

$5h+h^2+4$

$4 \to 5h+h^2+4$

h^2+5h

??

h^2+5h

2) If $f(n)=n^2-1$, compute $\sum_{n=0}^{4} f(n)$.

n^2-1

$1+2+3+4$

10

10^2+1

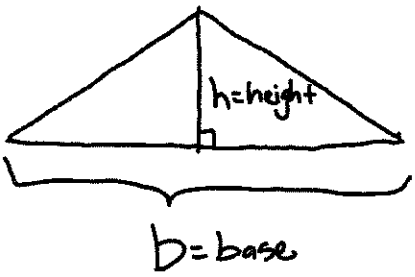
$100-1$

99

??

$\sum_{n=0}^{4} f(n) =$ 99

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10m^2$

~~$p = h$~~ $\frac{1}{2}b(h) = A$

$\frac{1}{2}b(h) = 10m^2$

$\frac{b(h)}{b} = \frac{5}{b}m^2$

$h = \frac{5}{b}$ $\frac{5}{b} = h$

$p = \frac{b(h)}{5}$

??

Perimeter = $\boxed{\frac{b(h)}{5}}$

Quiz 5

Name: Natasha Gavriloff **Perm Number:** 6773113

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2$

4

$(2+h)^2 - (2+h) + 2$

$4 + h^2 - 2 + h - 2$

$2 \cdot 2 + h^2 + h$

$0 + h^2 + h$

$(h^2 - h) - 4$

$\boxed{(h^2 - h) - 4}$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$f(n) = n^2 - 1$

$f(0) = 0^2 - 1$

$f(0) = -1$

$f(n) = n^2 - 1$

$f(1) = 1^2 - 1$

$f(1) = 0$

$f(2) = 2^2 - 1$

$f(2) = 4 - 1$

$f(2) = 3$

$f(3) = 3^2 - 1$

$f(3) = 9 - 1$

$f(3) = 8$

$f(4) = 4^2 - 1$

$f(4) = 16 - 1$

$f(4) = 15$

$-1 + 0 + 3 + 8 + 15$

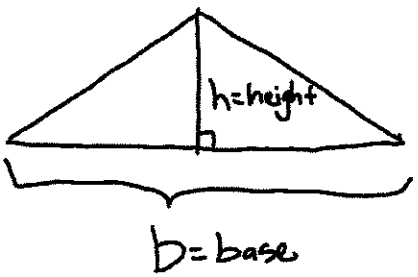
$-1 + 11 + 15$

$10 + 15$

25

$\sum_{n=0}^{4} f(n) = \boxed{25}$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Expreçs the perimeter in terms of the height.



area $= \frac{1}{2}bh$ ~~perimeter $= b + (\sqrt{a^2+b^2})2$~~

$10m^2 = \frac{1}{2}bh$

$\frac{1}{2}b$

$(10m^2 = \frac{1}{2}bh)2$

$20 = 2h(b)$

$b = \frac{20}{2h}$ $2h$

area $= \frac{10m^2}{(1/2)b} = h$

perimeter $= b + (\sqrt{h^2 + 1/2b^2})2$

perimeter $= \frac{20m^2}{2h} + \left(\sqrt{h^2 + \left(\frac{1}{2}\left(\frac{20}{2h}\right)^2\right.}\right)2$

Perimeter $= \boxed{\frac{20m^2}{2h} + \left(\sqrt{h^2 + \left(\frac{1}{2}\left(\frac{20}{2h}\right)\right)^2}\right)2}$

Quiz 5

Name: Myles Kelly **Perm Number:** 5008180

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 0$

$= 4$

$(2+h)^2 - (2+h) + 2$

$4 + h^2 - 2 - h + 2$

$h^2 + h$

$h^2 + h$

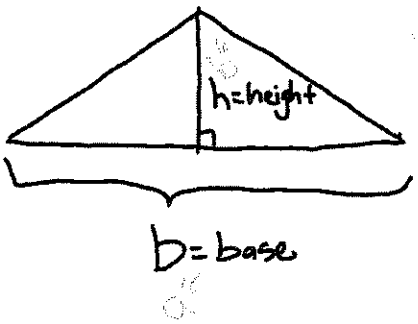
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$0^2 - 1$

$f(0) = -1$

$\sum_{n=0}^{4} f(n) = -1$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



Perimeter =

Quiz 5

Name: Sean Anderson **Perm Number:** 6120505

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2^2 - (2) + 2$ $\left((2+h)^2-(2+h)+2\right)-4$

$4 - 2 + 2$

$2+2=4$

$\left((2+h)^2-(2+h)+2\right)-4$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$0^2-1 = -1$

$1^2-1 = 0$ → 2 → 10 → 25

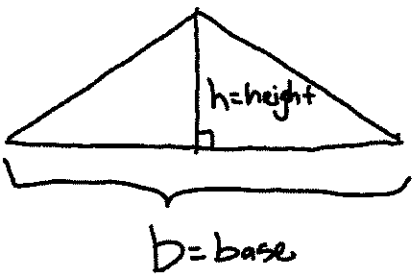
$2^2-1 = 3$

$3^2-1 = 8$

$4^2-1 = 15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the heiglit.



$A = \frac{1}{2} b h$

$10m^2 = \frac{1}{2} b h$

$20m^2 = bh$

$b = \frac{20m^2}{h}$

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

$\sqrt{h^2 + \left(\frac{20m^2}{2h}\right)^2} = L$

$$\left(2\sqrt{h^2+\left(\frac{20m^2}{2h}\right)^2}\right) + \frac{20m^2}{h}$$

Perimeter = $\left(2\cdot\sqrt{h^2+\left(\frac{20m^2}{2h}\right)^2}\right) + \frac{20m^2}{h}$

Quiz 5

Name: Rebekka Kabel **Perm Number:** 5084769

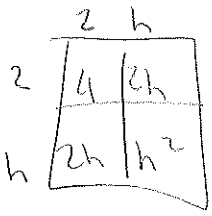
1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

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

$(2+h)^2 - (2+h) + 2$

$h^2 + 4h + 4 - 2 - h + 2$

$h^2 + 3h + 4 - 4 = h^2 + 3h$



$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

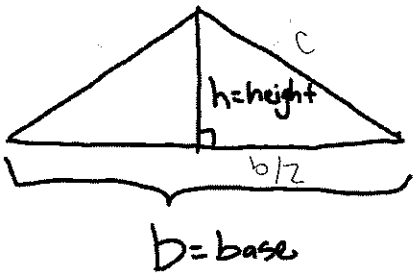
$(0^2-1) + (1^2-1) + (2^2-1) + (3^2-1) + (4^2-1)$

$(-1) + (0) + (3) + (8) + (15)$

$2 + 8 + 15 = 10 + 15 = 35$

$\sum_{n=0}^{4} f(n) =$ 35

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$P = b + 2c$

$A = \frac{1}{2} b \cdot h$

$10 = \frac{1}{2} b \cdot h$

$20 = b \cdot h$

$\frac{20}{h} = b$

$\frac{20}{h} = \frac{20}{h} \cdot \frac{1}{2} = \frac{20}{2h}$

$\frac{20}{h}$

$x^2 = c^2$ $a^2 + b^2 = c^2$

$\left(\frac{b}{2}\right)^2 + h^2 = c^2$

$10/h$ $\frac{10}{h}$

$c = \sqrt{\left(\frac{b}{2}\right)^2 + h^2} = \sqrt{\left(\frac{20}{h}\right)^2 + h^2} \Rightarrow \sqrt{\left(\frac{10}{h}\right)^2 + h^2}$

$\sqrt{\frac{100}{h^2} + h^2}$

$2\sqrt{\frac{100}{h^2} + h^2} + \frac{20}{h}$

Perimeter = $\boxed{2\sqrt{\frac{100}{h^2} + h^2} + \frac{20}{h}}$

Quiz 5

Name: Zoey Moody **Perm Number:** 4864134

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 - 2+h+2$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$4 + 4h + h^2 - 2 + h + 2$

$2^2 - 2 + 2$

4

$4 + 4h + h^2 + h$

$4 + 5h + h^2$

$(h+4)(h+1)$

4 4 1 5

$5h + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} (n^2 - 1)$

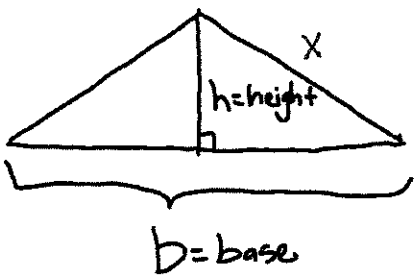
$14 + 11 = 25$

$-1 + 0 + 3 + 8 + 15$

$0 \quad 1 \quad 2 \quad 3 \quad 4$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10m^2$ $\quad A = bh/2$

$P = 2x + b$

$2 \cdot bh/2 = 10m^2 \cdot 2$

$\frac{bh}{h} = \frac{20m^2}{h}$

$b = \frac{20m^2}{h}$

$P = 2x + \frac{20m^2}{h}$

$x^2 = (b/2)^2 + h^2$ $\quad x^2 = (b/2)^2 + h^2$

$x^2 = b^2/4 + h^2$ $\quad b/2^2 \; b/2^2$

$x = \sqrt{(b/2)^2 + h^2}$ $\quad \frac{20}{20}$ $\quad 400$

$x = \sqrt{(20m/h)^2 + h^2}$ $\quad x^2 = 400/h^2 + h^2$

$x = 20/h + h$ $\quad x = 20/h + h$

$P = 2(20/h + h) + 20/h$ $\quad \frac{2}{1} \cdot \frac{20}{h} \cdot 40/h$

$P = 40/h + 2h + 20/h$

$P = 60/h + 2h$ Perimeter = $60/h + 2h$

Quiz 5

Name: Elika Zahedi **Perm Number:** 3947280

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x^2 - x + 2$ $\quad x^2 - x + 2 + h$

$x + 2$

$2^2 - 2 + 2$ $\quad (2+h)(2+h) - 2 + h + 2$

$4 - 2 + 2$ $\quad 4 + 2h + 2h + h^2$

$4 - 4$ $\quad 4 + 4h + h^2 - 2 + h + 2$

0 $\quad 6 + 4h + h^2 - 2 + h$

$4 + 3h + h^2$ $\quad 4 + 3h + h^2$

$4 + 3h + h^2$

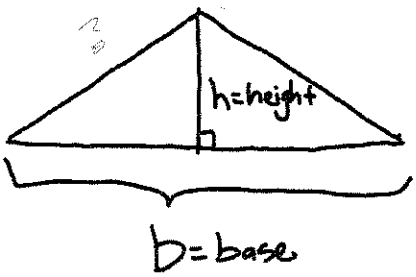
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} f(n)$

$\sum_{n=0}^{4} n^2 - 1$ $\quad \frac{n^2 - 1}{2}$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$P = 2l + 2w$

$A = 10m^2$

$a^2 + b^2 = c^2$

$b + h = c^2$

$h^2 + b = c^2$

Perimeter = $\boxed{}$

Quiz 5

Name: Aiden Afrasiabi **Perm Number:** 5229869

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x \longrightarrow$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h) - (2+h) + 2$

$4 + 2h + 2h + h^2 - 2 + h + 2$

$4 + 4h + h^2 - 2 + h + 2$

$4 + 5h + h^2$

$1 - 2 = 2 + 2 = 4$

$4 + 5h + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$1^2 - 1 + 2^2 - 1 + 3^2 - 1 + 4^2 - 1$

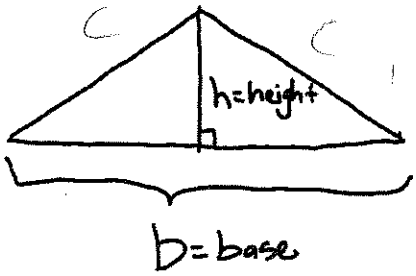
$(1-1) + (4-1) + (9-1) + (16-1)$

$0 + 3 + 8 + 15$

$\sum_{n=0}^{4} f(n) =$ $3 + 8 + 15$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.

$A = 10\ m^2$



$P = b + c + c$

$\frac{20}{h} + 2c$

$\frac{20}{h} + 2 \cdot \sqrt{h^2 + \left(\frac{20}{h}\right)^2}$

$10 = \frac{1}{2} bh$

$20 = bh$

$b = \frac{20}{h}$

$a^2 + b^2 = c^2$

$(h)^2 + \left(\frac{20}{h}\right)^2 = c^2$

$\sqrt{h^2 + \left(\frac{20}{h}\right)^2} = \sqrt{c^2}$

$c = \sqrt{h^2 + \left(\frac{20}{h}\right)^2}$

Perimeter = $\boxed{\left(\frac{20}{h}\right) + 2 \cdot \sqrt{h^2 + \left(\frac{20}{h}\right)^2}}$

Quiz 5

Name: Daniela Ramirez **Perm Number:** 6163299

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2+2+h^2-2-h+2$ 4.

$4-3h$

$4-3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

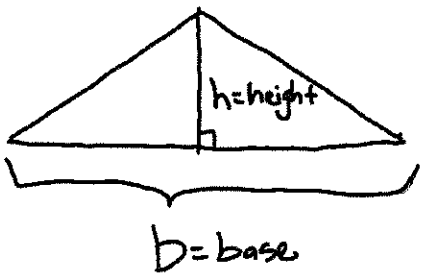
0, 3, 8, 15 $\sum_{n=0}^{4} n^2-1$

$4^2(8)(15)^5$ 16 × 5 80

2.8

$\sum_{n=0}^{4} f(n) =$ 80

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$10\,m^2$

Perimeter = $\boxed{}$

Quiz 5

Name: Harper Giordano **Perm Number:** 5884150

1) If x is increased from $\overset{f_1}{2}$ to $\overset{f_2}{2+h}$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2^2-2+2) - (2$

$((2+h)^2-(2+h)+2) - (2^2-2+2$

$h^2+4h+4-2-h+2-4$

h^2+3h

h^2+3h

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$. n^2-1

$\sum_{n=0}^{4} n^2-1$

$(0^2-1)+(1^2-1)+(2^2-1)+(3^2-1)+(4^2-1)$

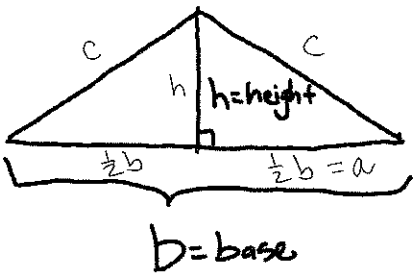
$(-1)+(3)+(8)+(15)$

$=25$

$\sum_{n=0}^{4} f(n) =$ 25

$c^2 = a^2 + b^2$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



check:

$c^2 = h^2 + a^2$

$c = \sqrt{h^2 + a^2}$

$P = b + 2c$

$A = \frac{1}{2}bh$

$10 = \frac{1}{2}bh$

$b = \frac{20}{h}$

$c^2 = h^2 + a^2$

$c^2 = h^2 + \frac{1}{2}b^2$

$c = \sqrt{h^2 + (\frac{1}{2}b^2)}$

$P = b + 2c$

$P = \frac{20}{h} + 2\left(\sqrt{h^2 + (\frac{1}{2}b)^2}\right)$

$\frac{1}{2}\left(\frac{20}{h}\right)^2$

Perimeter = $\frac{20}{h} + 2\left(\sqrt{h^2 + (\frac{10}{h})^2}\right)$

Quiz 5

Name: Ela Schulz **Perm Number:** 5295183

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$4 - 2 + 2$

$2 \to (2^2 - 2 + 2) = 4$

$x^2 - x + 2$

$2+h \to ((2+h)^2 - (2+h) + 2)$

$: (4 + 4h + h^2 - 2 - h + 2) = 4 + 3h + h^2$

$4 - 2 + 2 = 4 \quad 4 + 3h + h^2$

$4h - h = 3h$

$h^2 = h^2$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$4 + 4h + h^2$

-4

$h^2 + 3h$

$4 + 4h + h^2 - (2+h) + 2$

$4 + 3h + h^2 - 4 = h^2 + 3h$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$i : \frac{n^2+n}{2}$

$\leftarrow i^2 : \frac{n^3+n}{2} \cdot \frac{2n-1}{3}$

$(0^2 - 1) + (1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1)$

$-1 + 0 + 3 + 8 + 15$

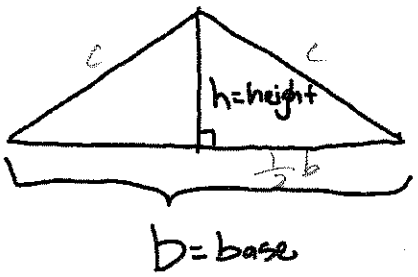
$= 25$

15
$+ 8$
23

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



triangle area = $\frac{1}{2}bh$

$A = \frac{1}{2}bh$

$10^2 = \frac{1}{2}bh \cdot 2$

$20 = bh$

$b = \frac{20}{h}$

only h

$\left(\frac{1}{2}b\right)^2 + (h)^2 = c^2$

$\left(\frac{1}{2}\cdot\frac{20}{h}\right)^2 + h^2 = c^2$

$\left(\frac{10}{h}\right)^2 + h^2 = c^2$

$c = \sqrt{\left(\frac{10}{h}\right)^2 + h^2}$

$A = \frac{1}{2}bh$

$10^2 = \frac{1}{2}bh \cdot 2$

$\frac{20}{h} = \frac{bh}{h}$

$b = \frac{20}{h}$ ✓

$P = c + c + b$

$P = 2\sqrt{\left(\frac{10}{h}\right)^2 + h^2} + \frac{20}{h}$

$a^2 + b^2 = c^2$

$\left(\frac{1}{2}b\right)^2 + h^2$

$\left(\frac{1}{2}\cdot\frac{20}{h}\right)^2 + h^2 = c^2$

$\left(\frac{10}{h}\right)^2 + h^2 = c^2$

$c = \sqrt{\left(\frac{10}{h}\right)^2 + h^2}$ ✓

Perimeter = $\boxed{2\sqrt{\left(\frac{10}{h}\right)^2 + h^2} + \frac{20}{h}}$

Quiz 5

Name: Ava Gunwitz **Perm Number:** 8686594

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$4 - 2 + 2$

$= 4$

$(h+2)(h+2) - (h+2) + 2$

$h^2 + 4h + 4 - h - 2 + 2$

$h^2 + 3h + 4$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$-1, 0, 3, 8, 15$

10

25

$n^4 + n^4 - n^2$

$\frac{n^4 - n^2}{2}$ $\frac{n^2(n^2-1)}{2}$

$(n^2-1) + (n^2-1)(n^2-1)$

$\frac{n^3 - n}{2} \cdot \frac{2n^2 - 2}{3}$

$\frac{(n^3 - n)}{2} \cdot \frac{(2n^2 - 2)}{3}$

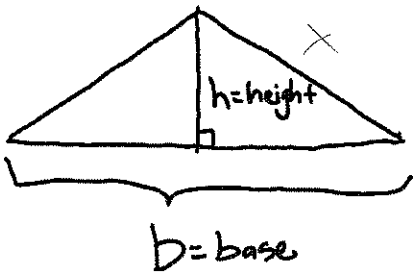
$\frac{2n^5 - 2n^3 - 2n^3 + 2n}{6}$ $\frac{3}{}$

$\frac{3n^3 - n}{6} \cdot \frac{4n^3 - 4}{6}$

$\sum_{n=0}^{4} f(n) =$ 25

$\frac{n^2 - 1 + (n^2-1)^2}{2}$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$$\frac{bh}{2} = 10m$$

$$\left(\frac{1}{2}b\right)^2 + h^2 = x$$

$$x = \left(\frac{1}{2}b\right)^2 + h^2$$

$$\downarrow$$

$$\times 2 \quad + 2h$$

$$2\left(\left(\frac{1}{2}h\right)^2 + h^2\right) + 2h$$

$$\frac{1}{2}h^2 + 2h^2 + 2h$$

$$\frac{5}{2}h^2 + 2h$$

Perimeter = $\boxed{\frac{5}{2}h^2 + 2h}$

Quiz 5

Name: Desiree Espinoza **Perm Number:** 4736211

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)(x^2-x+2)$

$2x^2 - 2x + 4$

h^2+3h

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

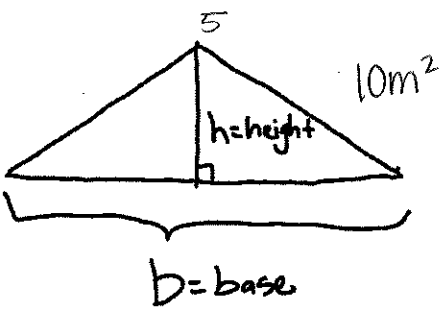
$\sum_{n=0}^{4} n^2-1$

$\frac{n^2-1}{4}$

4, 8, 12, 16, 20, 24, 28

$\sum_{n=0}^{4} f(n) =$ 28

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$10m^2$ = area

perimeter

90°

Perimeter = 5m

Quiz 5

Name: Maya Cooks **Perm Number:** 6388730

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h. =to h or involving h

$2+h \quad 2+h \quad 4+h^2+2h+2h$

$4+h^2+2h+2h$

$2^2-2+2+2+h^2-2+h+2$

$2^2-2+2+4+h^4+4h-2+h+2$

$16+h^4+3h$

0,2 0,2+h $2+h-2$ / 0

2,0 2+h,0

$16+h^4+3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

n^2-1

$n=0 \quad 9-1 \quad 8$

4

$16-1$

$-1, 0, 3, 8, 15$

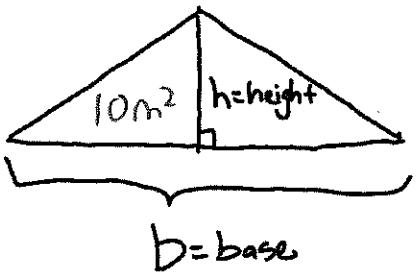
$\sum_{n=0}^{4} f(n) = 0^2-1, 1^2-1, 2^2-1, 3^2-1$

4^2-1

$\sum_{n=0}^{4} n^2-1 = 0^2-1, 1^2-1, 2^2-1, 3^2-1, 4^2-1$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.

using



~~P = 6s²~~
~~A = πr²~~

3

~~H = 6s²~~
~~P = πr²~~

$A = L \cdot w \cdot h$

$\frac{A}{Lw} = \frac{L \cdot w \cdot h}{Lw}$

$A = L \cdot w \cdot h$

$H = \frac{A}{L \cdot w}$

$P = h^3$

$P = \left(\frac{A}{Lw}\right)^3$

Perimeter = $10_m^2 = \left(\frac{A}{Lw}^2\right)^3$

Quiz 5

Name: Jessica Taghizadeh **Perm Number:** 6681472

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2$

$4 - 2 + 2$

4

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$4 + 4h + h^2 - 2 + h + 2$

$6 + 5h + h^2 - 2$

$4 + 5h + h^2$

$(4 + 5h + h^2) - 4$

$5h + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\frac{n(n+1)}{2} \cdot \frac{2n+1}{3}$

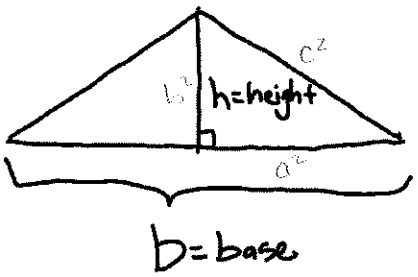
$\sum_{n=0}^{4} n^2 - 1 \longrightarrow (0^2 - 1) + (1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1)$

$-1 + 0 + 3 + 8 + 15$

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



area = $\frac{1}{2}bh$

$\frac{10}{0.5h} = \frac{0.5bh}{0.5h}$

$\frac{5}{h} = b$

this should equal hypotenuse?

$\frac{5}{h} + \left(\frac{\frac{1}{2}b \cdot h^2}{0.5}\right) + h$

$a^2 + b^2 = c^2$

$\frac{1}{2}b^2 + h^2 = c^2$

$\frac{\frac{1}{2}b^2}{0.5} = \frac{c^2 - h^2}{0.5}$

$\sqrt{\frac{5}{h}} \quad \sqrt{\frac{c^2 - h^2}{0.5}} \longrightarrow$

$\frac{1}{2}b + h + c^2$

$\frac{2.5}{h} + h$

$\frac{1}{2}b + h + c^2$?

Perimeter = $\frac{2.5}{h} + h + c^2$

Quiz 5

Name: Zoe Albornoz **Perm Number:** 6499796

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

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

$(2+h)^2 - (2+h) + 2 \Rightarrow 4 + 4h + h^2 + h - h^2 + 5h + 4$

$h^2 + 5h + 4 - 4 =$

$\rightarrow 4 + 4h + h^2 - 2 - h + 2 \rightarrow 4 + 3h + h^2 - 4$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$. $\sum_{n=0}^{4} (n^2 - 1) = \sum_{n=0}^{4} n^2 + \sum_{n=0}^{4} -1$

$\rightarrow n\left(\frac{n+1}{2}\right)\left(\frac{2n+1}{3}\right) \rightarrow 30 + 5(-1) = 25$

$0 + 1 + 4 + 9 + 16$

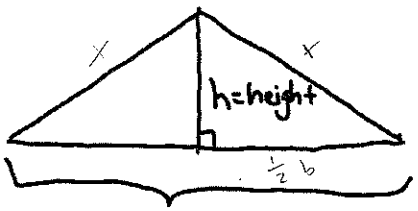
$5 - 14 -$

$-1 + 0 + 3 + 8 + 15$

$2 \quad 10 \quad 15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



b=base

$A = \frac{1}{2}bh = 10$

$bh = 20$

$\left(b = \frac{20}{h}\right)$

$P = b + 2x$

$P = \frac{20}{h} + 2\left(\sqrt{h^2 + \frac{100}{h^2}}\right)$

$h^2 + \left(\frac{1}{2}b\right)^2 = x^2$

$h^2 + \left(\frac{1}{2}\left(\frac{20}{h}\right)\right)^2 = x^2$

$h^2 + \frac{100}{h^2} = x^2$

$x = \sqrt{h^2 + \frac{100}{h^2}}$

$P = \frac{20}{h} + 2\sqrt{h^2 + \frac{100}{h^2}}$

Perimeter = $\boxed{\frac{20}{h} + 2\sqrt{h^2 + \frac{100}{h^2}}}$

$\frac{n(n+1)}{2}$ $\frac{n(n+1)}{2}$ $\frac{(2n+1)}{3}$

Quiz 5

Name: Ian Huang **Perm Number:** 3926409

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2, 2^2 - 2 + 2$

$= 4 - 2 + 2$

$= 2 + 2$

$= 4$

$2+h, (2+h)^2 - (2+h) + 2$

$(2+h)(2+h) - (2+h) + 2$

$4 + 2h + 2h + h^2 - 2 - h + 2$

$4 + 4h + h^2 - 2 - h + 2$

$= 4 + 3h + h^2$

(change) $4 + 3h + h^2 - 4$

$= 3h + h^2$

$3h + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$(0^2 - 1) + (1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1)$

$= -1 + (1 - 1) + (4 - 1) + (9 - 1) + (16 - 1)$

$-1 + 0 + 3 + 8 + 15$

$-1 + 3 + 8 + 15$

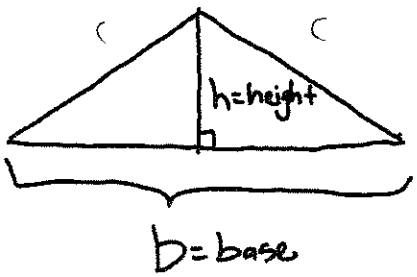
$2 + 8 + 15$

$10 + 15$

$= 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10\,m^2$ $\quad P = b + c + c$

$P = b + 2c$

$A = \frac{1}{2}bh$

$10 = \frac{1}{2}bh$

$20 = bh$

$b = \frac{20}{h}$

$h^2 + \left(\frac{b}{2}\right)^2 = c^2$

$h^2 + \left(\frac{\frac{20}{h}}{2}\right)^2 = c^2$

$h^2 + \left(\frac{40}{h}\right)^2 = c^2$

$\sqrt{h^2 + \left(\frac{40}{h}\right)^2} = c$

$P = \frac{20}{h} + 2\left(\sqrt{h^2 + \left(\frac{40}{h}\right)^2}\right)$

Perimeter = $\boxed{\frac{20}{h} + \sqrt{h^2 + \left(\frac{40}{h}\right)^2} \cdot 2}$

Quiz 5

Name: Mason Montgomery **Perm Number:** 3929560

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

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

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h)$

$4 + 4h + h^2 - 2 - h + 2$

$h^2 + 3h + 4$

$(h^2 + 3h + 4) - 4$

$h^2 + 3h$

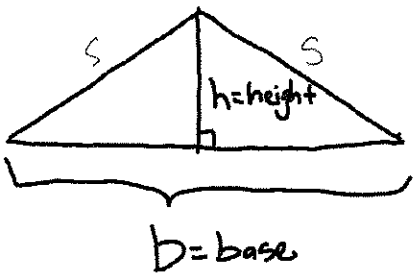
2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} (n^2 - 1)$

0	$0 - 1 = -1$
1	$1 - 1 = 0$
2	$4 - 1 = 3$
3	$9 - 1 = 8$
4	$16 - 1 = 15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10\,m^2$ $\qquad 10 = \frac{1}{2}bh$

$20 = bh$

$\left(\frac{b}{2}\right)^2 + h^2 = s^2$ $\qquad \frac{20}{h} = b$

$\left(\frac{\frac{20}{h}}{2}\right)^2 + h^2 = s^2$

$\left(\frac{40}{h}\right)^2 + h^2 = s^2$

$\sqrt{\frac{1600}{h^2} + h^2} = s$ $\qquad P = 2s + b$

$P = 2\sqrt{\frac{1600}{h^2} + h^2} + \frac{20}{h}$

Perimeter = $\boxed{2\sqrt{\frac{1600}{h^2} + h^2} + \frac{20}{h}}$

Quiz 5

Name: Candice Moreno **Perm Number:** 8930448

Section Tuesday 8:00 AM

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2 \to 2+h$

2

$2^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2$

4

$2+h$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$4 + 4h + h^2 - 2 - h + 2$

$4 + 3h + h^2$

increases by:

$= 3h + h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1 \hookrightarrow 0^2 - 1,\ 1^2 - 1,\ 2^2 - 1,\ 3^2 - 1,\ 4^2 - 1$

$4 - 1 \quad 9 - 1 \quad 16 - 1$

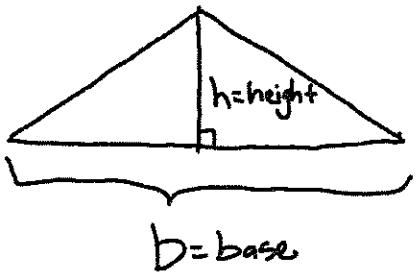
$-1, 0, 3, 8, 15$

$2 + 18 + 15$

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10\,m^2$ $\quad A = b \cdot h$

$P = ?h^2$ $\quad \frac{10m^2}{b}$

Perimeter = $h = \frac{10m^2}{b}$

Quiz 5

Name: Joelle Haddad **Perm Number:** 4700282

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2 = 4$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h) = 4 + 2h + 2h + h^2$

$4 + 2h + 2h + h^2 - 2 + 2 - 4$

$4 + 3h + h^2$, 4 is original

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

0 -1

1 $1^2 - 1 = 0$

2 $2^2 - 1 = 3$

3 $3^2 - 1 = 8$

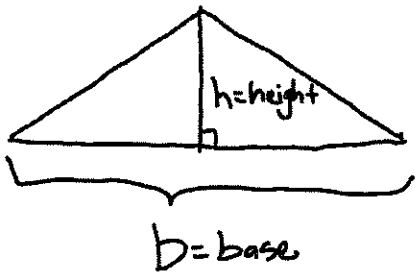
4 $4^2 - 1 = 15$

$2 + 8 + 15$

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$$\left(h\right)^2+\left(\frac{b}{2}\right)^2=c^2$$

$$\text{area}=\frac{b\cdot h}{2}$$

$$\frac{20}{h}=b \qquad \frac{20}{h}\cdot 2$$

$$h^2+\left(\frac{40}{h}\right)^2=c^2$$

$$\frac{40}{40}\quad \frac{1600}{h^2}+h\cdot h=c^2$$

$$1600$$

$$\frac{1600}{h^2}+\frac{h^4}{h^2}\quad \frac{1600\cdot h^4}{h^2}\rightarrow\sqrt{1600h^2}=\sqrt{c^2}$$

$$40h=c$$

$$2(40h)+\frac{20}{h}$$

$$80h+\frac{20}{h}$$

$$\begin{array}{r}40\\ \times\ 40\\ \hline 1600\end{array}$$

Perimeter = $\boxed{80h+20/h}$

Quiz 5

Name: Nicholas Prasad **Perm Number:** 5635750

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2+h)^2 - (2+h) + 2$

$h^2 + 4h + 4 - 2 + h + 2$

$h^2 + 4h + 4 + h$

$h^2 + 5h + 4$

$h^2 + 5h + 4 - 4$

$h^2 + 5h$

$(2)^2 - (2) + 2$

$4 - 2 + 2$

4

$h^2 + 5h$

2	$+h$	
4	$2h$	2
$2h$	h^2	h

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

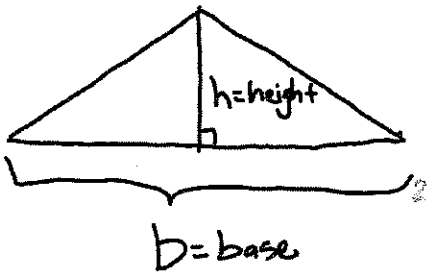
$-1, 0, 3, 8, 15$

$11 + 14$

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2}bh$

$10 = \frac{1}{2}bh$

$\frac{20}{h} = \frac{bh}{h}$

$b = \frac{20}{h}$

$10 = \frac{1}{2}\left(\frac{20}{h}\right)h$

$10 = \left(\frac{10}{\frac{1}{2}h}\right)h$

$20 = \left(\frac{10}{h}\right)h$

$20h = 10$

$h = \frac{10}{20}$

Sorry for confusion

$\frac{10}{20} + \frac{20}{\left(\frac{10}{20}\right)} = 20$

Perimeter = 20

Quiz 5

Name: CONNELL TRAINOR **Perm Number:** 687289

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x \rightarrow 2 \quad 2+h$

$x^2 - x + 2 \rightarrow$

$2^2 - 2 + 2 = 4$

$(2+h)^2 - (2+h) + 2$

$4 + 4h + h^2 - 2 - h + 2$

$4 + 3h + h^2$

$4 - 2 + 2 \quad 4$

$(2+h)^2 - 2 - h + 2$

$4 + 4h + h^2 - h$

$h^2 + 3h$

$h^2 + 3h + 4$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{0}^{4} n^2 - 1$

$(-1) + (0) + (3) + (8) + (15)$

$-1 + 3 + 8 + 15$

$2 \quad 10 \quad 25$

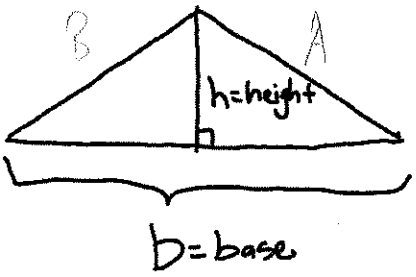
$(0^2 - 1) + (1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1)$

$-1 + 0 + 3 + 8 + 15$

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height



$$\frac{1}{2} b \times h = 10$$

$$b = \frac{20}{h}$$

$$P = b + A + B$$

$$= \frac{20}{h} + 2\left(\sqrt{\left(\frac{10}{h}\right)^2 + h^2}\right)$$

$$= \frac{20}{h} + 2\left(\frac{100}{h^2} + h^2\right)^{1/2}$$

$$= \frac{20}{h} + 2\left(\frac{100 + h^4}{h^2}\right)^{1/2}$$

$$= \frac{20}{h} + \frac{2}{h}\left(100 + h^4\right)^{1/2}$$

$$\text{Area: } 10 = \frac{1}{2} \times b \times h$$

$$b = \frac{20}{h}$$

$$A^2 = \left(\frac{b}{2}\right)^2 + h^2$$

$$A = \sqrt{\left(\frac{b}{2}\right)^2 + h^2}$$

$$= \sqrt{\left(\frac{10}{h}\right)^2 + h^2}$$

Perimeter = $\boxed{\frac{20}{h} + 2\left(\sqrt{\left(\frac{10}{h}\right)^2 + h^2}\right)}$

Quiz 5

Name: Marc Nunez **Perm Number:** 8042103

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x_1 = 2$

$x_2 = 2+h$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h)$

$4+2h+2h+h^2$

$4+4h+h^2 - (2+2)$

$2+3h+h^2+2$

$4+3h+h^2$

$4-2+2 = 0$

$4+3h+h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$(0-1)+(1-1)+(4-1)+(9-1)+(16-1)$

$-1+0+3+8+15$

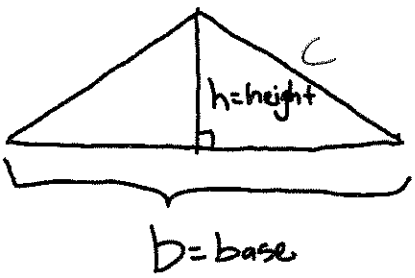
23

24

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$h^2 + \left(\frac{b}{2}\right)^2 = c^2$

$h^2 + \frac{b^2}{4} = c^2$

$A = 10m^2$

$\frac{1}{2}bh = A$

$P = b + 2c$

$\frac{1}{2}bh = 10$

$bh = 20$

$b = \frac{20}{h}$

$\left(\frac{20}{b}\right)^2 + \frac{b^2}{4} = c^2$

$\frac{400}{b^2} + \frac{b^2}{4} = c^2$

$P = \frac{20}{h} + \sqrt{h^2 + \frac{h^2}{80}}$

$\sqrt{\frac{400}{b^2} + \frac{b^2}{4}} = c$

$\frac{20}{b} + \frac{b}{2} = c$

$h^2 + \frac{\left(\frac{20}{h}\right)^2}{4} = c^2$

$h^2 + \frac{h^2}{80} = c^2$

$\sqrt{h^2 + \frac{h^2}{80}} = c$

Perimeter = $\boxed{\frac{20}{h} + \sqrt{h^2 + \frac{h^2}{80}}}$

Quiz 5

Name: Christopher Boling **Perm Number:** 6085534

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$f(2) = 2^2 - 2 + 2$

$f(2) = 4 - 2 + 2$

$f(2) = 4$

$(2+h)^2 - (2+h) + 2$

$4 + 4h + h^2 - 2 - h + 2$

$4 + 4h + h^2 - h$

$f(2+h) = h^2 + 3h + 4$

$(2+h)(2+h)$

$4 + 4h + h^2$

$h^2 + 3h + 4 - 4 = h^2 + 3h$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$f(0) = -1$

$f(1) = 0$

$f(2) = 3$

$f(3) = 8$

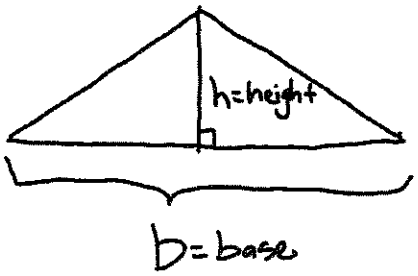
$f(4) = 15$

$15 + 11 = 26$

$26 - 1 = 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



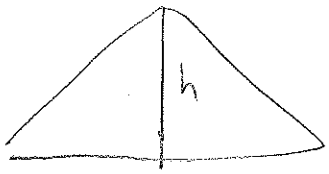
$10 = \frac{1}{2}bh$

$\frac{20}{h} = \frac{bh}{h}$

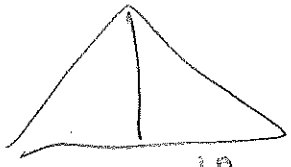
$h^2 + \left(\frac{10}{h}\right)^2 = c^2$

$h^2 + \frac{100}{h^2} = c^2$

$\frac{h^4}{h^2} + \frac{100}{h^2} = \frac{h^4+100}{h^2}$



$\frac{20}{h}$



$\frac{10}{h}$ $\frac{10}{h}$

one side $= h^2+100$

$2(h^2+100)$

$2h^2+200$

$\frac{20}{h} + 2h^2 + 200$

$\frac{20}{h} + \frac{2h^2}{h} + \frac{200h}{h}$

Perimeter = $\boxed{2h^2 + \frac{20}{h} + 200}$

Quiz 5

Name: Riley Clark **Perm Number:** 5155312

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2 = 4$

$4 - 2 + 2$

$(h+2)(h+2)$

$h^2 + 4h + 4$

$(2+h)(2+h)^2 - 2 - h + 2$

$h^2 + 4h + 4 - 4$

$h^2 + 4h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

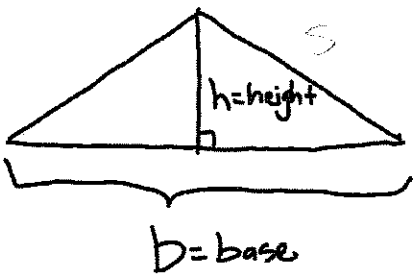
$\sum_{n=0}^{4} n^2 - 1 = -1 + 0 + 3 + 8 + 15$

23

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$$A = \frac{1}{2}b \cdot h$$

$$2(10) = b \cdot h$$

$$b = \frac{20}{h}$$

$$s^2 = h^2 + \left(\frac{1}{2}b\right)^2$$

$$s^2 = h^2 + \left(\frac{10}{h}\right)^2$$

$$2\sqrt{h^2 + \left(\frac{10}{h}\right)^2} + \frac{20}{h}$$

$$P = b + 2\sqrt{\frac{1}{2}b^2 + h^2} \qquad b = \frac{20}{h}$$

$$\frac{20}{h} + 2\sqrt{\quad}$$

Perimeter = $\boxed{\frac{20}{h} + 2\sqrt{\left(\frac{10}{h}\right)^2 + h^2}}$

Quiz 5

Name: Victoria McNabb **Perm Number:** 5171038

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x = 2 \rightarrow x = 2+h$

$2^2 - 2 + 2$

$4 - 2 + 2$

$= 4$

$(2+h)^2 - (2+h) + 2 \longrightarrow h^2 + 4h + 4 - 2 - h + 2$

$h^2 + 4h + 4 + 2 + h + 2$

$h^2 + 3h + 4$

$h^2 + 5h + 8$

$(h^2 + 3h + 4) - 4$

$h^2 + 5h + 8 = 4$

$h^2 + 5h + 4$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2$

$h^2 + 4h + 4$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} h^2 - 1$

$4 - 1 \quad 9 - 1 \quad 16 - 1$

$((0)^2 - 1) + ((1)^2 - 1) + ((2)^2 - 1) + ((3^2) - 1) + ((4)^2 - 1)$

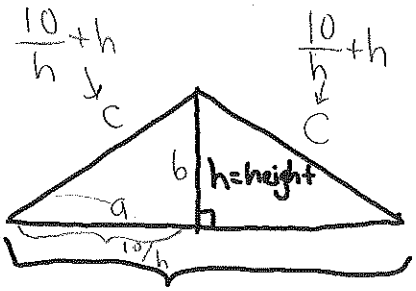
$-1 + 0 + 3 + 8 + 15$

$2 + 8 + 15$

$10 + 15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = \frac{1}{2}bh$

$(10)^2 = (\frac{1}{2}bh)^2$

$\frac{20}{h} = \frac{bh}{h}$

$b = \frac{20}{h}$

$\frac{10}{h} + h + \frac{10}{h} + h$

$\frac{20}{h} \div \frac{2}{1} = \frac{\cancel{20}^{10}}{h} \times \frac{1}{\cancel{2}} = \frac{10}{h}$

$\sqrt{(\frac{10}{h})^2 + (h)^2} = \sqrt{c^2}$

$\frac{10}{h} + h = c$

$P = b + c + c$

$P = \frac{20}{h} + 2(\frac{10}{h} + h)$

$P = \frac{20}{h} + \frac{20}{h} + 2h$

$= \frac{40}{h} + 2h$

Perimeter = $\frac{40}{h} + 2h$

Quiz 5

Name: Iliana De La Riva **Perm Number:** 6591473

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x^2 - x + 2$

$= (2+h)^2 - (2+h) + 2$

$= (2+h)(2+h) - 2 + h + 2$

$= 4 + 2h + 2h + h^2 - 2 + h + 2$

$= h^2 + 5h + 4$

$h^2 + 5h + 4$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1 = (0)^2 - 1 + (1)^2 - 1 + (2)^2 - 1 + (3)^2 - 1 + (4)^2 - 1$

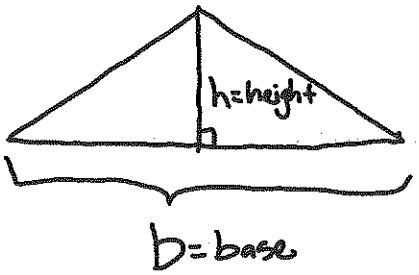
$= -1 + 0 + 3 + 8 + 15$

$= 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.

$A = b \cdot h$ $A = l \cdot w$



$10m^2 = h + P$

$A = b \cdot h$

$10m^2 = \frac{1}{2} \cdot h$

$-1/2 \quad -1/2$

$h = -\frac{1}{2} + 10m^2$

Perimeter = $-\frac{1}{2} + 10m^2$

Quiz 5

Name: Isabella Bishop **Perm Number:** 3760204

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x = 2$

$\downarrow$

$x = 2 + h$

$(2^2)(-2) + 2$ when $x = 2$ it's

$4 - 2 + 2 = 4$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h) - (2+h) + 2$

$4 + 2h + 2h + h^2$

$4 + 4h + h^2 - 2 - h + 2$

$h^2 + 4 + 3h$

$4 + h^2 + 3h$

-4

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

starting @ 0, go till 4

$(0^2 - 1) + (1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1)$

$-1 + 0 + 3 + 8 + 15$

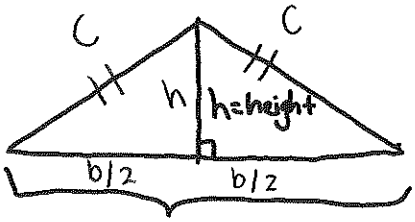
$-1 + 11 + 15$

$10 + 15$

$+ \begin{array}{r} 15 \\ 10 \\ \hline 25 \end{array}$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$P = b + 2c$

$A = \frac{1}{2}bh^2$

(2) $10 = \frac{1}{2}bh^2$

$\frac{20}{h^2} = \frac{bh^2}{h^2}$

$b = \frac{20}{h^2}$

* solve for what you're getting rid of

$b = \frac{20}{h^2} \times \frac{1}{2} = \frac{b}{2} = \frac{10}{h^2}$ bc it's $\frac{b}{2}$

For one half b = base

$h^2 + b^2 = c^2$

$\sqrt{h^2 + \left(\frac{10}{h^2}\right)} = \sqrt{c^2}$

$c = \frac{\sqrt{10}}{h} + h$

$\frac{h^2}{1}$

$c = \sqrt{h^2 + \frac{10}{h^2}}$

$h + \frac{10}{h}$

$P = \frac{20}{h^2} + 2\left(\frac{\sqrt{10}}{h} + h\right)$

$\frac{20}{h^2} + \frac{\sqrt{20}}{2h} + \frac{2h}{1}$

20

↑ i couldn't figure out how to better simplify bc that's how i learned it on the board / exam

Perimeter = $\frac{40}{h} + 2h$

Quiz 5

Name: Andrea Orihuela **Perm Number:** 6282495

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$4-2+2$

$2 \to 2+h$

$(2+h)^2-(2+h)+2$

$4+4h+h^2-2-h+2$

$4+3h+h^2$

h^2+3h

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2-1$

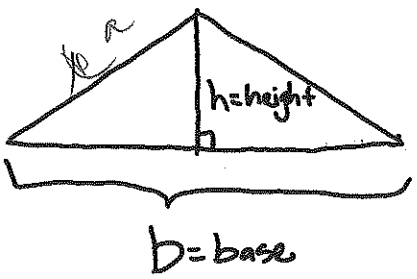
$\frac{50}{5}$ $\frac{(0+24)n}{5}$

$(0,3,8,15,24)$

$-1, 0, 3, 8, 15$

$\sum_{n=0}^{4} f(n) = \frac{15n}{5} = 3n$

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$\frac{1}{2}(bh) = 10m^2$

$bh = 20m^2$

$b = \frac{20m^2}{h}$

$P = \frac{20m^2}{h} + 2\left(\frac{20m^2}{2h} + h\right)$

$\frac{20m^2}{h} + \frac{40m^2}{2h} + h = P$

$\frac{40m^2}{h} + h = P$

$c = a^2 + t^2 = \left(\frac{1}{2}b\right)^2$

$a^2 + h^2 +$

$\left(\frac{1}{2}b\right)^2 + h^2 = b^2$

$\frac{1}{2}b + h = a$

$\frac{20m^2}{2h} + h = a$

Perimeter = $\frac{40m^2}{h} + h = P$

Quiz 5

Name: Bryan Vinh **Perm Number:** 5133277

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

x^2

x^2+h^2-x+2

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

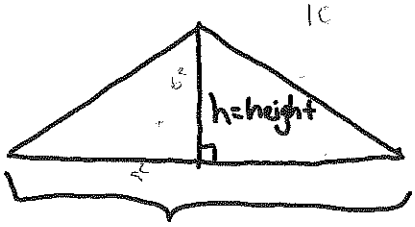
0 1 2 3 4

$-1+0+3+8+15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.

$a = bh \cdot \frac{1}{2}$



$\sqrt{h^2+b^2}$

Perimeter = $\sqrt{h^2+b^2}$

Quiz 5

Name: Fleurette Judq **Perm Number:** 5279351

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 = 2+2 = 4$

$(2+h)^2 - (2+h) + 2$

$4 + 4h + h^2 - 2 - h + 2$

$4 + 3h + h^2$

4 to $4+3h+h^2$

$4+3h+h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$n^2 - 1$

$0^2 - 1 = -1$

$1^2 - 1 = 0$

$2^2 - 1 = 3$

$3^2 - 1 = 8$

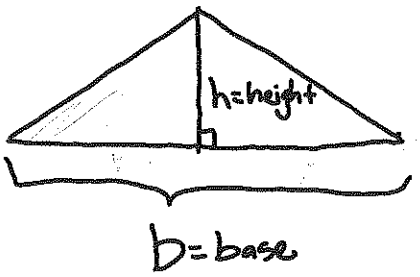
$4^2 - 1 = 15$

$-1 + 0 + 3 + 8 + 15$

$= 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10\,m^2$

$\frac{1}{2} b \cdot h = 10\,m^2$ $\quad b = \frac{20}{h}$

$2\left(\frac{b}{2}\right)^2 + 2h^2 = 2c^2$

$\left(\frac{20}{h} \cdot \frac{1}{2}\right)^2 + h^2 = c^2$

$\left(\frac{400}{h^2}\right) + h^2 = c^2$

$c = 2\sqrt{\frac{100}{h^2} + h^2}$

Perimeter = $2\sqrt{\frac{100}{h^2} + 2h^2}$

Quiz 5

Name: Isabella Agnusa **Perm Number:** 3962537

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$x = 2 \longrightarrow x^2 - x + 2 = 2^2 - 2 + 2 = 4 - 2 + 2 = 4$

$\hookrightarrow x = 2+h \rightarrow (2+h)^2 - (2+h) + 2$

$4 + h^2 - 2 + h + 2$

$2 + h^2 + h + 2$

$4 + h^2 + h$

$\Delta \; 4 - (4 + h^2 + h)$

$\Delta \; h^2 + h$

$h^2 + h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1 = (0^2 - 1) + (1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1)$

$= (-1) + 0 + 3 + 8 + 15$

$= -1 + 3 + 8 + 15$

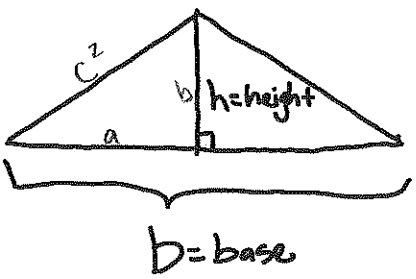
$= 2 + 8 + 15$

$= 10 + 15$

$= 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10$

$b \cdot h \cdot \frac{1}{2} = A$

$b \cdot h \cdot \frac{1}{2} = 10$

$a^2 + b^2 = c^2$

$\left(\frac{b}{2}\right)^2 + h^2 = c^2$

$b \cdot h = \frac{10}{.5}$

$b \cdot h = 20$

$b = \frac{20}{h}$

$\sqrt{\left(\frac{20/h}{2}\right)^2 + h^2 = c^2}$

$P = \text{base} + c + c$

$P = \left(\frac{20}{h}\right) + 2\left(\frac{20/h}{2}\right)^2 + h^2$

Perimeter = $\boxed{\frac{20}{h} + 2\left(\left(\frac{\frac{20}{h}}{2}\right) + h\right)}$

Quiz 5

Name: Kyla Drengler Spin **Perm Number:** 8696767

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

	2	h
2	4	$2h$
h	$2h$	h^2

$(2)^2 - 2 + 2$ vs. $(2+h)^2 - (2+h) + 2$

$4 - 2 + 2$ $h^2 + 4h + 4 - 2 - h + 2$

$= 4$ $h^2 + 3h + 4$

same same

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$(0^2 - 1) + (1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1)$

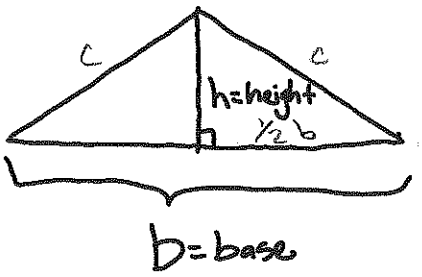
$-1 + 0 + 3 + 8 + 15$

$2 \quad 10 \quad 25$

$15 + 8 = 23 + 3 = 26 - 1 = 25$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$$\text{area} = 10m^2$$

$$\text{area} = \frac{1}{2} b \cdot h$$

$$10 = \frac{1}{2} b \cdot h$$

$$\frac{20}{h} = \frac{b \cdot h}{h}$$

$$\frac{20}{h} = b$$

$$c^2 = h^2 + \left(\frac{1}{2}b\right)^2$$

$$c^2 = h^2 + \frac{1}{4}b^2$$

$$\sqrt{c^2} = \sqrt{h^2 + \frac{1}{4}\left(\frac{20}{h}\right)^2}$$

$$c = \sqrt{h^2 + \frac{1}{4}\left(\frac{400}{h^2}\right)}$$

$$c = \sqrt{h^2 + \frac{100}{h^2}}$$

$$\frac{20}{h} \cdot \frac{20}{h} = \frac{400}{h^2}$$

$$20 \times 20 = 400$$

$$p = 2c + b$$

$$p = 2\sqrt{h^2 + \frac{100}{h^2}} + \frac{20}{h}$$

Perimeter = $\boxed{2\sqrt{h^2 + \frac{100}{h^2}} + \frac{20}{h}}$

Quiz 5

Name: Mustpha Saeed **Perm Number:** 4744215

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$X \Rightarrow 2$

$2 \rightarrow 2+h = x$

$(x^2 - x + 2)$

$2 \quad 1 \quad -2$

$(2+h)^2 - (2+h) + 2$

$2+h$

$2 \quad 4 \quad 2h$

$h \quad 2h \quad h^2$

$(h^2+4h+4) - (2+h) + 2$

$h^2+4h+4-h$

h^2+3h+4

$h^2 + 3h + 4$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{n=0}^{4} n^2 - 1$

$-1 + 0 + 3 + 8 + 15$

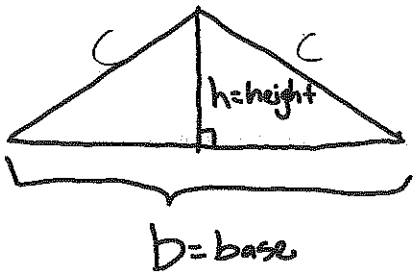
$-1 \quad 11 \quad 15$

$10 \quad +15$

25

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.

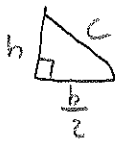


$A = 10m^2$ $\quad P = 2c + b$

$A = \frac{bh}{2}$

$20 = bh$ $\quad \frac{10 \cdot 2}{h} = b$ $\quad \frac{20}{h} = b$

$\frac{20}{b} = h$



$\left(\frac{b}{2}\right)^2 + h^2 = c^2$

$\frac{b^2}{4} + h^2 = c^2$

$\frac{b^2}{4} = c^2 - h^2$

$b^2 = (c^2 - h^2)4$

$b = \sqrt{4c^2 - 4h^2}$

$\frac{b^2}{4} + h^2 = c^2$

$\frac{20}{h} \times \frac{20}{h} = \frac{400}{h^2} = b^2$

$\sqrt{\frac{b^2}{4} + h^2} = c$

$\frac{400}{h^2} \times \frac{1}{4} = \frac{400}{4h^2}$

$\sqrt{\frac{100}{h^2} + h^2} = c$

$\frac{100}{h^2} = \frac{b^2}{4}$

$\frac{100h^4}{h^2}$

$P = 2\left(\sqrt{\frac{b^2}{4} + h^2}\right) + \sqrt{4c^2 - 4h^2}$

$\sqrt{4\left(\sqrt{\frac{100}{h^2} + h^2}\right)}$

Perimeter = $\boxed{2\left(\sqrt{\frac{100}{h^2} + h^2}\right) + \sqrt{4c^2 - 4h^2}}$

Quiz 5

Name: Justin Jose **Perm Number:** 534578

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$(2)^2 - 2 + 2$

$4 - 2 + 2$

$2 + 2$

4

$(2+h)^2 - (2+h) + 2$

$4 + 4h + h^2 - 2 - h + 2$

$h^2 + 3h + 4$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$(0^2-1) \quad (1-1) \quad (2^2-1) \quad (3^2-1) \quad (4^2-1)$

$1 \quad 0 \quad 4-1=3 \quad 9-1=8 \quad 16-1=15$

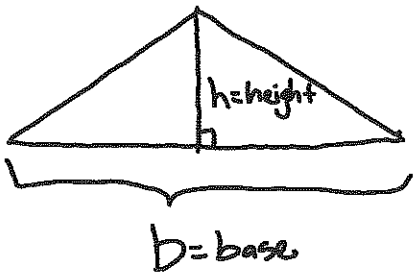
$-1 + 0 + 3 + 8 + 15$

$-1 + 11 + 15$

$10 + 15$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = (L \times w)\,1/2$

$2 \cdot 10\,m^2 = (h \times b)\,1/2 \cdot 2$

$\frac{20\,m^2}{h} = \frac{(h \times b)}{h}$

$\frac{20m^2}{h} = b$

Area $= 10m^2 = \left(h \times \frac{20m^2}{h}\right) 1/2$

$2b + h$

$2\left(\frac{20m^2}{h}\right) + h$

Perimeter = $\left(\frac{40m^2}{2h}\right) + h$

Quiz 5

Name: Leo Safir **Perm Number:** 5194121

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$f(x) = 2$

$f(x) = 2+h$

$2^2 - 2 + 2$

$4 - 2 + 2 = 4$

$2+h^2 - 2+h + 2$

$(2+h)(2+h)$

$4+2h+2h+h^2+2+h+2$

$4+4h+h^2$

$-(2+h)$ -4

$3h+h^2$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

(0^2-1) 6

$0^2-1=-1$

$1^2-1=0$

$2^2-1=3$

h.

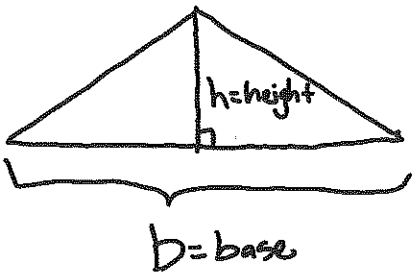
(4^2-1).

$10+15$ n^2-1

-1

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$A = 10m^2$

$\frac{2}{1} \cdot \frac{1}{2} b \cdot \frac{h}{h} = \frac{10}{h} \cdot \frac{2}{1}$

$\sqrt{h^2 + \frac{1}{2}b^2} = \sqrt{c^2}$

$b + c + c$

$b + 2c$

$b = \frac{20}{h}$

$\frac{20}{h} + \sqrt{h^2 + \frac{20}{h} \cdot \frac{1}{2} b^2}$

$\frac{20}{h} + \sqrt{h^2 + \frac{10^2}{h^2}}$

Perimeter = $\boxed{\frac{20}{h} + \sqrt{h^2 + \frac{100}{h^2}}}$

Quiz 5

Name: Kat Brydson **Perm Number:** 5100805

1) If x is increased from 2 to $2+h$, how much does $x^2 - x + 2$ increase? Your final answer should be in terms of h.

$2^2 - 2 + 2 = 4$

$(2+h)^2 - (2+h) + 2$

$(2+h)(2+h)$

$4 + 2h + 2h + h^2 - 2 - h + 2$

$4 + 4h - h + h^2 \quad 9 + 3h + h^2$

$h^2 + 3h$

2) If $f(n) = n^2 - 1$, compute $\sum_{n=0}^{4} f(n)$.

$\sum_{0}^{4} n^2 - 1$

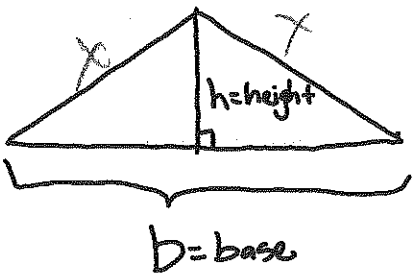
$0^2-1 + 1^2-1 + 2^2-1 + 3^2-1 + 4^2-1$

$-1 + 1 - 1 + 4 - 1 + 9 - 1 + 16 - 1$

$3 + 22$

$\sum_{n=0}^{4} f(n) =$ 25

3) The side of a roof is going to be built. Its shape is an isosceles triangle with base b and height h (figue below). The area of this triangle is $10m^2$. Express the perimeter in terms of the height.



$$\text{area} = \frac{1}{2}bh$$

$$10m^2 = \frac{1}{2}bh$$

$$\frac{20m^2}{h} = \frac{bh}{h}$$

$$b = \frac{20}{h}$$

$$\left(\frac{b}{2}\right)^2 + h^2 = x^2$$

$$\underbrace{\left(\frac{b}{2}\right)^2 + h^2}_{x} + \underbrace{\left(\frac{b}{2}\right)^2 + h^2}_{x} + \underbrace{\frac{20}{h}}_{b}$$

$$\left(\frac{20}{h}\right)\cdot\frac{1}{2} = \frac{20}{h}\cdot\frac{1}{2} = \frac{20}{2h} = \frac{10}{h}$$

$$\left(\frac{20}{2h}\right)^2 + h^2 + \left(\frac{20}{2h}\right)^2 + h^2 + \frac{20}{h}$$

$$\left(\left(\frac{20}{2h}\right)+h\right)^2 + \left(\left(\frac{20}{2h}\right)+h\right)^2$$

Perimeter = $\boxed{\left(\left(\frac{20}{2h}\right)+h\right)^2 + \left(\left(\frac{20}{2h}\right)+h\right)^2 + \frac{20}{h}}$