January 15, 2019 Warm-Up

Write using a power of 10.

37 241

$30\,000 + 7000 + 200 + 40 + 1$

$3\times10^4 + 7\times10^3 + 2\times10^2 + 4\times10^1 + 1\times10^0$

SIMPLIFY THEN EVALUATE!!!

↳ Use exponent laws

$$\frac{3^6 \times 3^7}{3^8} + (2^3 \times 2)^2 - (-1)^0$$

$\frac{3^{13}}{3^8} + (2^4)^2 - (-1)^0$

$3^5 + 2^8 - (-1)^0$

$\frac{3^{13}}{3^8} + (2^6 \times 2^2) - (-1)^0$

$3^5 + 2^8 \cdot (-1)^0$

$243 + 256 - 1$

498

Simplify

↳ Use exponent laws

$$(2^{12} \div 2^{10})^2 \times (4^8 \div 4^7) + 3^2$$

$(2^2)^2 \times 4^1 + 3^2$

$2^4 \times 4^1 + 3^2$

$(2^{24} \div 2^{20}) \times (4^1) + 3^2$

$2^4 \times 4^1 + 3^2$

Simplify → Use Exponent Rules

A. $(3^3 \times 3^3)^2 - (2^5 \div 2^3)^3 \times (4^3 \times 4^5)^0$

$(3^6)^2 - (2^2)^3 \times (4^8)^0$

$3^{12} - 2^6 \times 4^0$

Warm-Up January 15, 2020

Evaluate

1) $\dfrac{3^2(5^0+2+2^2)}{2(5+4^2)}$

$\dfrac{9(1+2+4)}{2(5+16)}$

$\dfrac{9(7)}{2(21)}$

$\dfrac{63}{42} = \dfrac{21}{42} = 1\frac{1}{2}$

Simplify then Evaluate

2. $\dfrac{(-4)^3 \times (-4)^4}{(-4)^2 \times (-4)^3} + 3^4$

$\dfrac{(-4)^7}{(-4)^5} + 3^4$

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

$16 + 81$

97

1. Exam Review questions 20-28 ...show work

Exam Review Unit 1

Chapter 1

Perfect Squares

Surface Area

Which of the following are perfect squares?

decimal to fraction
Example 0.64 : $\frac{64}{100}$

A. 1.69 $\frac{169}{100}$ ← 13x13, ← 10x10 (yes)

B. 0.9 $\frac{9}{10}$ ← 3x3, ← no (NO)

C. 81 ← 9x9 (yes)

D. 12.1 $\frac{121}{10}$ ← 11x11, ← no (NO)

Find the square root of the following using Fractions

a) $\frac{\sqrt{81}}{\sqrt{100}} = \frac{9}{10}$

b) $\sqrt{\frac{121}{25}} = \frac{11}{5}$

c) $\frac{\sqrt{9}}{\sqrt{100}} = \frac{3}{10}$

$\sqrt{\frac{81}{100}} = \frac{9}{10}$

d) 6.25 $\frac{\sqrt{625}}{\sqrt{100}} = \frac{25}{10}$

Find the number whose square root is:

Use fractions!!!

a) $\frac{9}{25}$

$\sqrt{?} = \frac{9}{25}$ $\times 9$ $\times 25$

$? \ \frac{81}{625}$

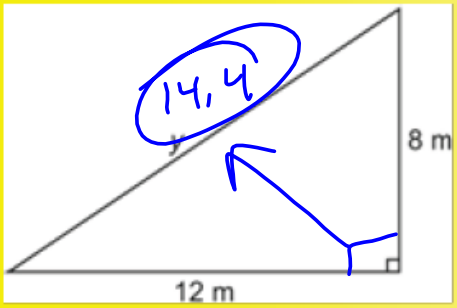
b) 0.4

$\sqrt{?} = \frac{4}{10}$

$? \ \frac{16}{100}$

Calculate the unknown side

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



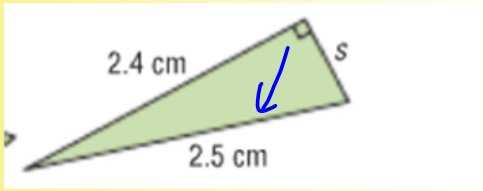
$c^2 = a^2 + b^2$

$c^2 = 12^2 + 8^2$

$c^2 = 144 + 64$

$\sqrt{c^2} = \sqrt{208}$

$c = 14.4$ m



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

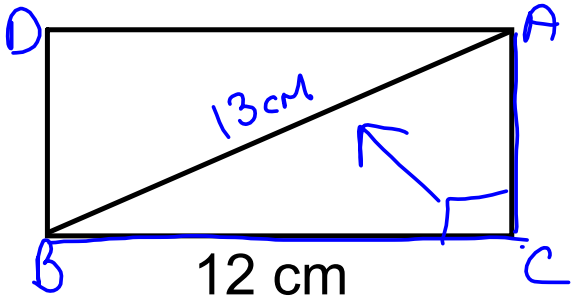
$2.5^2 = 2.4^2 + b^2$

$6.25 = 5.76 + b^2$

$\sqrt{b^2} = \sqrt{0.49}$

$b = 0.7$ cm

What is the length of the diagonal?



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

$c^2 = 12^2 + 5^2$

$c^2 = 144 + 25$

$\sqrt{c^2} = \sqrt{169}$

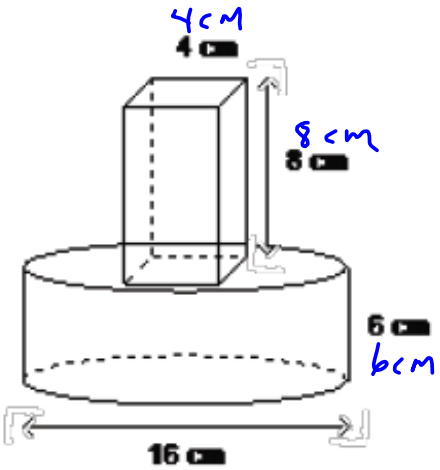
$c = 13$

How much distance is saved if you walk the diagonal from A to B versus walking the lines from A to B?

17cm to walk around

13 cm to walk diagon

4cm saved



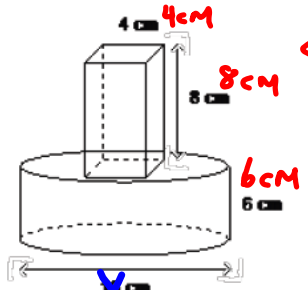
Rectangular Prism

F/B | x2 | A=bh

T/B | x2

Sides | x2

SA: $2\pi r^2 + 2\pi rh$ *



SA cylinder

$2\pi r^2 + 2\pi r h$

$2\pi(8)^2 + 2\pi(8)(6)$

$401.92 + 301.44$

$703.36\ cm^2$

8cm

F/B

x2 4

8

A: bh

= 8x4

= 32

x2

64

T/B

x2 4

4

A: bh

= 4x4

= 16

x2

32

side

x2 4

8

A: bh

= 8x4

= 32

x2

64

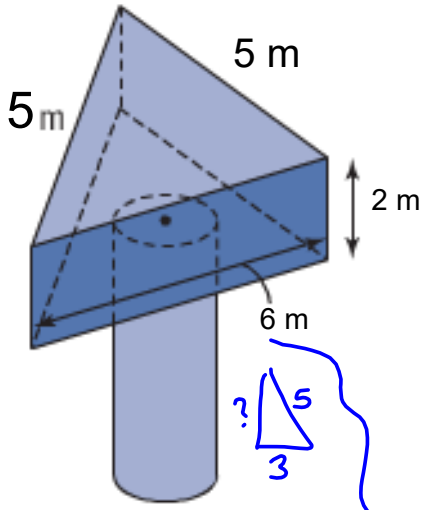
160

$703.36 + 160 - 32 =$

$831.36\ cm^2$

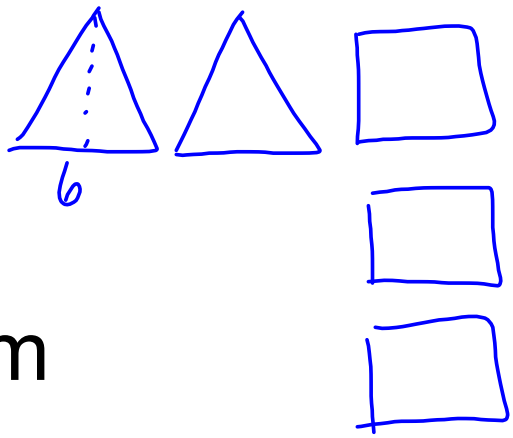
Find the surface area of the following:

Cylinder
radius = 1m
height = 5m



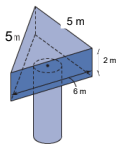
Area triangles

Cylinder



Sides triangular prism

Find the surface area of the following:

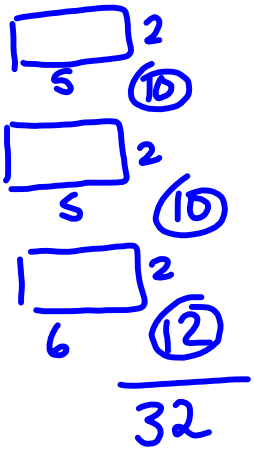


$2\pi r^2 + 2\pi rh$

$2\pi(1)^2 + 2\pi(1)5$

$6.28 + 31.4$

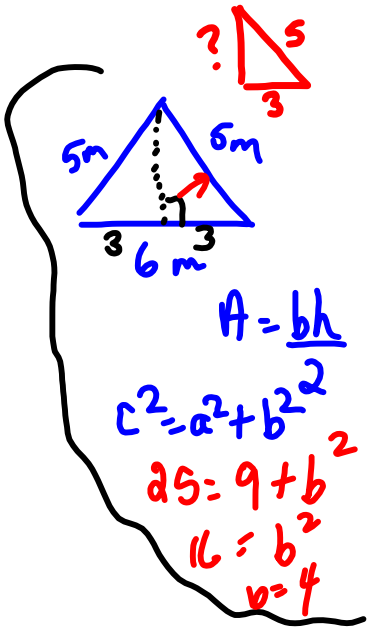
37.68



$\times 2$

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

$= \frac{4 \times 6}{2} = \frac{24}{2} = 12 \times 2 = 24$



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

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

$25 = 9 + b^2$

$16 = b^2$

$b = 4$

$37.68 + 32 + 24 - 6.28 = 87.4\ m^2$

What must be done...

1. All of Chapter 1 Square Roots and Surface Area Review questions 1-22

2. two questions involving triangular prisms

Attachments

Formula_Sheet_Ultimate_Final_Copy[1].doc