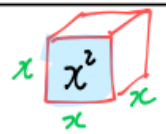
A cube has a surface area of 96cm²
Calculate the volume of the cube



$6x^2 = 96$
$x^2 = 16$
$x = 4$

Volume $= x^3 = 4^3 = 64cm^3$

$2\frac{1}{4}$ of a number is 90
What was the number?

40

Write $4\sqrt{128}$ in its simplest form

$\sqrt{128} = \sqrt{64} \times \sqrt{2} = 8\sqrt{2}$

$4\sqrt{128} = 4 \times 8\sqrt{2} = 32\sqrt{2}$

A house increased in price by 35%.
The price increase was £70,000.
How much did the house originally cost?

35% = 70 000

1% = $\frac{70000}{35}$ = 2000

100% = 200,000

£ 200,000

Solutions by
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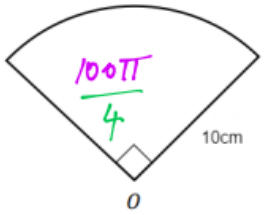
A circle has an area of 25π cm²
Calculate the circumference of the circle.
Give your answer in terms of π.

radius $= \sqrt{25} = 5$

$C = 2 \times 5 \times \pi$

$= 10\pi$ cm

Calculate the area in terms of π



100π

25π cm²

$2\frac{2}{5} - 1\frac{3}{8}$ $\frac{12}{5} - \frac{11}{8} = \frac{8 \times 12}{8 \times 5} - \frac{11 \times 5}{8 \times 5} = \frac{96}{40} - \frac{55}{40} = \frac{41}{40}$

$= 1\frac{1}{40}$

$3\frac{2}{3} \div 4\frac{4}{5}$ $\frac{11}{3} \times \frac{5}{24} = \frac{11 \times 5}{3 \times 24} = \frac{55}{72}$

A is written as a product of its prime factors.
What is A as an ordinary number?

$A = 2^2 \times 3 \times 5^2$

$4 \times 3 \times 25$

$= 300$

300

Evaluate $8^{1/3}$

$\sqrt[3]{8} = 2$

Evaluate 8^{-2}

$\left(\frac{1}{8}\right)^2 = \frac{1}{64}$

Evaluate $\left(\frac{8}{125}\right)^{\frac{2}{3}}$

$\left(\frac{\sqrt{8}}{\sqrt{125}}\right)^2 = \left(\frac{2}{5}\right)^2 = \frac{4}{25}$

Evaluate $\left(\frac{16}{81}\right)^{-\frac{3}{2}}$

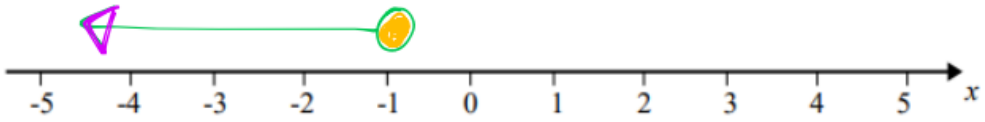
$\left(\frac{81}{16}\right)^{3/2} = \left(\frac{\sqrt{81}}{\sqrt{16}}\right)^3 = \left(\frac{9}{4}\right)^3 = \frac{729}{64}$

2y = 6x + 9 $y = 3x + 4.5$

Equation of a line that is parallel $y = 3x + 10$ can be any number.

Equation of a line that is perpendicular $y = -\frac{1}{3}x + 10$

On the number line show the inequality $x + 5 \leq 4$ $x \leq -1$



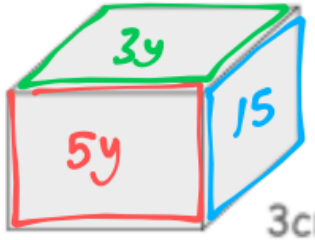
$-4 \leq y + 4 < 1$ where y is an integer.
Write down all the possible values of y. $-8 \leq y < -3$

-8, -7, -6, -5, -4

Solve $2x + 2 < 4x + 5$

$2 < 2x + 5$
$-3 < 2x$
$-1.5 < x$ $x > -1.5$

This cuboid has a surface area of 190cm²
Work out the value of y.



Surface Area = $(5y + 3y + 15) = 8y + 15$
$\times 2$
$16y + 30$

$16y + 30 = 190$
$16y = 160$
$y = 10$

y = 10

Simplify

$$\frac{2x^2 + 13x + 6}{x^2 - 36} = \frac{(2x+1)(x+6)}{(x+6)(x-6)} = \frac{2x+1}{x-6}$$

Simplify

$$\frac{4x+2}{3x} \div \frac{3x}{x1} = \frac{4x+2}{3x} \div \frac{3}{1} = \frac{4x+2}{3x} \times \frac{1}{3} = \frac{4x+2}{9x}$$

Write 34,006 in standard form

3.4006×10^4

Write 3.06×10^{-4} as a normal number

0.000306

Give your answer in standard form $(2.4 \times 10^4) \times (3 \times 10^2)$

$2.4 \times 3 \times 10^4 \times 10^2 = 7.2 \times 10^{4+2}$

7.2×10^6