

What is the value of this expression?

$21(119+9\cdot 9+8)-206(7\cdot 5-2\cdot 7)$

Enter your answer in the space provided.

The value is _____.

If $b=-2$, then the value of the expression $2-(3b+1)(-b+2)$ is _____

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Complete the solution to this absolute value inequality.

Enter your answers in the spaces provided.

$|5p-2|\leq 8$

$-8\leq 5p-2\leq 8$

$-8+$ _____ $\leq 5p-2+2\leq 8+$ _____

$-6\leq 5p\leq$ _____

_____ $\leq p\leq$ _____

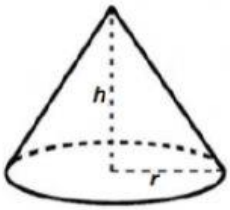
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Equations and Inequalities **Math** **Mr. Abdulkader Amro**



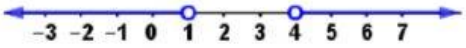
The surface area of a cone can be found with the formula $SA = \pi r(\sqrt{h^2 + r^2} + r)$.
The variable $r = 3\,cm$ is the radius of the circle, and $h = 6\,cm$ is the height.
Use 3.14 for π. Round your answer to the nearest hundreds.

What is the surface area of this cone?



- ○ $91.45\ cm^2$
- ○ $68.23\ cm^2$
- ○ $113.04\ cm^2$
- ○ $65.26\ cm^2$

Which inequality has the blue solution shown in the graph?



Drag and drop the correct answer to the box.
The inequality is _____.

$|2x-5| \geq 3$ $|2x-5| > 3$ $|2x-5| \leq 3$ $|2x-5| < 3$

Which of these numbers are rational?

Select 3 choice(s)

- ☐ $\frac{3.5}{6}$
- ☐ -5
- ☐ $\sqrt{2}$
- ☐ $7.3890560\ldots$
- ☐ $\frac{23}{\pi}$
- ☐ $\sqrt{25}$

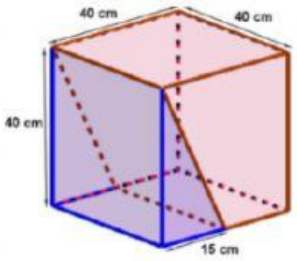
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A box in the shape of a cube is cut along one of its edges to obtain a triangular blue prism as shown.

What is the volume of the remaining brown piece of the cube?



- 52,000 cm^3
- 64000 cm^3
- 240000 cm^3
- 16000 cm^3

Drag and drop the answers into the boxes to correctly complete the sentences.

The multiplicative inverse of $\frac{\sqrt{2}}{2}$ is [ ].

The additive inverse of $-1\frac{5}{7}$ is [ ].

The [ ] inverse of -3.8 is $-\frac{5}{19}$

The [ ] inverse of -3.8 is 3.8.

$\frac{-\sqrt{2}}{2}$ $\frac{-2}{\sqrt{2}}$ additive division multiplicative $1\frac{7}{5}$ $\sqrt{2}$ subtraction $\frac{12}{7}$

What is the solution to this equation?

$7(8-5n)+(-1)(n+14)=3(2n-13)$

Select your answer from the drop-down menu.

The solution is n = Select... .

$\frac{-29}{21}$ $\frac{27}{14}$ $\frac{21}{29}$ $\frac{-21}{29}$

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Equations and Inequalities **Math** **Mr. Abdulkader Amro**



A company selling electronic devices obtains a profit between AED 500 and AED 750 boxes per day. Write an absolute value equation in the form $|x - c| = r$ to represent the maximum and the minimum profit obtained in a day.



Enter your answer in the space provided.

The absolute value equation is _____.

What is the sum of the product of three fourths and the square of a number and the additive inverse of seven?

- ○ $3(4)x^2 + 7$
- ○ $\frac{3}{4}x^2 + (-7)$
- ○ $\frac{3}{4}x^2 + 7$
- ○ $\frac{3}{4}(x-7)^2$

Solve $3|-5x + 2| + 5 \leq 14$.

Drag and drop the answer into the box.

The solution to this inequality is _____.

$\left[-\frac{1}{5}, 1\right]$ $\left(\frac{1}{5}, 1\right)$ $\left[-1, \frac{1}{5}\right]$ $\left(-\frac{1}{5}, 5\right)$

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Equations and Inequalities **Math** **Mr. Abdulkader Amro**



The formula $V = \pi(rh^2 - \frac{1}{3}h^3)$ can be used to find the volume of water filled in a spherical tank.

The variable V is the volume of the filled water, h is the height of water in the tank, and r is the radius of the spherical tank.
The radius of each tank is 120 cm. Tank A is filled with water to a height of 30 cm.
Use 3.14 for π and round to the nearest whole number if necessary.



The volume of filled water in tank A is _____ cm^3.

The volume of water filled in tank B is three halves the volume of tank A.

The volume of water in tank B is _____ cm^3.

The volume of water filled in the rest of the tanks (C, D, E, and F) is two times that of A and B.

The total volume in all tanks is _____ cm^3.

432,213	2,331,450	22513.8	2,020,590	330,120	466,290	310,860

The solution to the inequality $x - 1000 \leq 250$ is _____,

and the solution of $x - 1000 \geq -250$ is _____.

Nada is planning her birthday party and estimates that she needs AED 1000 plus or minus at most AED 250.
The absolute value inequality to find the range between the maximum and minimum amount of money that she may need is _____.



The maximum amount is _____.

The minimum amount is _____.

Nada bought 40 hats for AED 5 each, 100 balloons for AED 3 each, a cake for AED 175, and AED 300 for new clothes.

The total amount of money paid by Nada is AED _____.

750	$x \geq 250$	500	1000	$x \leq 250$	$x \leq 1250$	1250	250	$\lvert x - 250 \rvert \leq 1000$	975	$\lvert x - 1000 \rvert \geq 250$

$\lvert x - 1000 \rvert \leq 250$	$x \geq 750$

For an educational plan, Rashed joins a saving plan in which he aims to have AED 400,000 at the end of five years at an annual interest rate of 10%. The total amount of money obtained after n years in this plan is given by the formula $F_n = P\frac{(1+i)^n - 1}{i}$, where F_n is the future value or the amount at the time of the n^{th} payment, n is the number of periods, i is the interest rate per period, and P is the periodic payment.

What is the formula for P that Rashed will find first and what is his yearly payment? Round your answer to the nearest whole number.

- ○ $P = \frac{i F_n}{(1+i)^n - 1}$ and Rashid's yearly payment is AED 8889.
- ○ $P = \frac{i F_n}{(1+i)^n - 1}$ and Rashed's yearly payment is AED 65519.
- ○ $P = \frac{(1+i)^n - 1}{i F_n}$ and Rashid's yearly payment is AED 80,000.
- ○ $P = \frac{i F_n + 1}{(1+i)^n}$ and Rashid's yearly payment is AED 24,837.

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