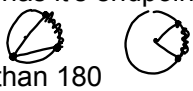
Calendar Math 

Arc: A portion of the outside of a circle. part of the circumference.

Intercepted Arc: The arc that lies in the interior of an angle and has it's endpoints on the circle. 

Minor Arc: less than 180

Major Arc: More than 180

Semi-Circle: Exactly 180. Half of the circle

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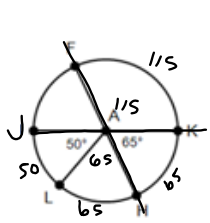
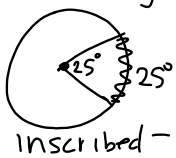


Central angle - same intercepted arc



Inscribed - $\frac{1}{2}$ of the arc

$\overline{FH}$ and $\overline{JK}$ are diameters. Find the measure of each angle or arc.

1. $m\angle FAJ$
2. $m\angle LAH$
3. $m\angle KAF$
4. $m\overset{\frown}{JL}$
5. $m\overset{\frown}{LH}$
6. $m\overset{\frown}{HK}$

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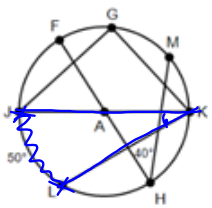

$m\overset{\frown}{JF}$

$m\overset{\frown}{LH}$

$m\angle JKL$

$m\overset{\frown}{FM} = 80°$

$m\angle HAK$ 60°

$m\overset{\frown}{KF}$ 120°

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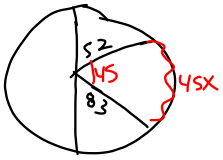
Homework Questions...



$\frac{45}{45} = \frac{45x}{45}$

$1 = x$

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$89x = \frac{1}{2} \cdot 178$

$89x = 89$

$x = 1$

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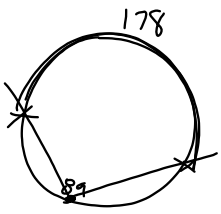

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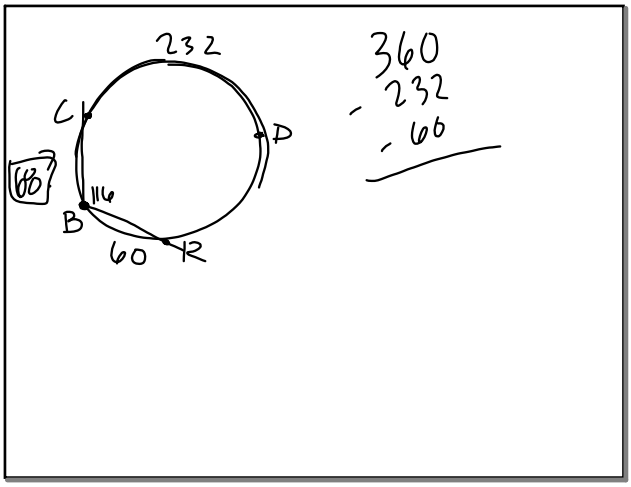

$360 - 232 - 66$

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(15) $x^2 - 4x + 7 = -x^2 - 6x - 11$

$+x^2 + 6x + 11 \quad +x^2 + 6x + 11$

$2x^2 + 2x + 18 = 0$

$$\frac{-2 \pm \sqrt{(2)^2 - 4(2)(18)}}{2(2)}$$

$$\frac{-2 \pm \sqrt{-140}}{2}$$

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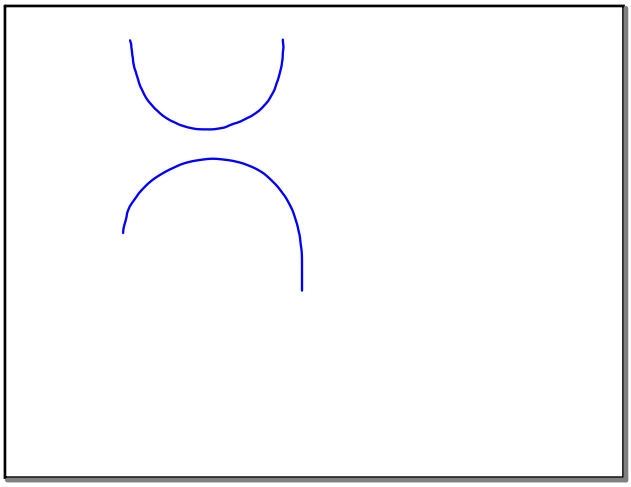

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(18) $4x^2 - 15x + 11 = 0$

$(4x - 11)(4x - 4)$

$x = \frac{11}{4} \qquad x = 1$

$\left(\frac{11}{4}, \frac{5}{4}\right)$ $(1, 4)$

$3\left(\frac{11}{4}\right) + y = 7$

$7 - 3\left(\frac{11}{4}\right)$

$y =$

$3(1) + y = 7$

$y = 4$

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$3x + y = 7$

$y = -3x + 7$

$4x^2 + 5(-3x + 7) = 24$

$4x^2 - 15x + 35 - 24 = 0$

$4x^2 - 15x + 11$

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25 possible $y = -5$

$y = -2(x + 3)(x - 4) - 5$

$(-3, -5) \quad (4, -5)$

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7.2 Matrices (Honors)

labeling a matrix: Rows X Columns

$\begin{bmatrix} 2 & 1 \\ 3 & 6 \\ 1 & 2 \end{bmatrix}$ 3X2

Row Operations:

$-2R_3$ $-2(1\ 2)$

$-2R_3+R_1$ $-2\ -4$ $+2\ 1$ $0\ -3$

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Putting a matrix into a calculator

$\begin{bmatrix} 2 & 1 \\ 3 & 6 \\ 1 & 2 \end{bmatrix}$

① Steps 2nd matrix x^{-1}

② edit enter

③ Row 3 x column 2

④ enter the elements (numbers)

⑤ 2nd quit

2nd matrix [A] enter

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Solve each system of equations using matrices

x=4y-2z-14

z=6y-14

6x+6z=-24

$X-4y+2z=-14$

$-6y+z=-14$

$6x\quad 6z=-24$

$X-4y+2z=-14$ (14)

$-4y+2z$

$X-4y+2z=-14$

column for x y z answer

$\begin{bmatrix} 1 & -4 & 2 & -14 \\ 0 & -6 & 1 & -14 \\ 6 & 0 & 6 & -24 \end{bmatrix}$

Use the coefficients from the equation to write as a matrix. (Drop off the letters) 3X4

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① 2nd matrix

② math

③ RRef

reduced row echelon form

Choose the matrix you are solving

rref[A]

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$\begin{bmatrix} 1 & 0 & 0 & -2 \\ 0 & 1 & 0 & 2 \\ 0 & 0 & 1 & -2 \end{bmatrix}$ x y z

X=-2

Y=2

Z=-2

consistent independant solution

1 solution

Consistent: the lines cross

independent: exactly one point

dependent: on one variable

$\begin{bmatrix} 1 & 0 & 1 & 3 \\ 0 & 1 & 0 & 2 \\ 0 & 0 & 0 & 0 \end{bmatrix}$

$\begin{bmatrix} 0 & 0 & 0 & 1 \end{bmatrix}$ No solution

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$6x-y-z=4$

$-12x+2y+2z=-8$

$5x+y-z=3$

x y z

6 -1 -1 4

-12 2 2 -8

5 1 -1 3

(X) $-\frac{2}{11}z=\frac{7}{11}$ $X=\frac{2}{11}z+\frac{7}{11}$

(Y) $-\frac{1}{11}z=-\frac{2}{11}$ $y=\frac{1}{11}z-\frac{2}{11}$

$z=z$

$\left(\frac{2}{11}z+\frac{7}{11}, \frac{1}{11}z-2, z\right)$ consistent dependent

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inverse
X^{-1}
$[A]^{-1}$ enter

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If the lines never cross
inconsistent

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Finding the inverse of a matrix

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Solve a system using the inverse matrix.

2x+6y+6z=8

2x+7y+6z=10

2x+7y+7z=9

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