

“Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time.” - Thomas Edison

Monday

- 1) Divide the following using synthetic division:
 $(3x^3 + 12x^2 + 11x - 2) \div (x + 2)$
- 2) Divide the following using synthetic division:
 $(3x^3 - 5x^2 + 2) \div (x - 2)$
- 3) When the polynomial $p(x) = (x^3 + 2x^2 - 21x + b)$ is divided by the expression $(x - 3)$ the quotient is $(x^2 + 5x - 6)$, what is the value of b ?
- 4) The area of a rectangle is represented by the expression $(3x^3 - x^2 - 13x + 2)$. If the length of the rectangle is represented by $(x + 2)$, what is the width?
- 5) The volume of a rectangular prism is represented by the expression $(x^3 - 2x^2 - 20x - 24)$. The width of the rectangular prism is represented by the expression $(x - 6)$. If the height and the length are the same, what is the height of the rectangular prism?

Tuesday:

1) Simplify: $\frac{x + 6}{x^2 - 36}$

2) Divide: $\frac{x + 7}{x^2 + 5x + 6} \div \frac{x^2 + 7x}{x + 3}$

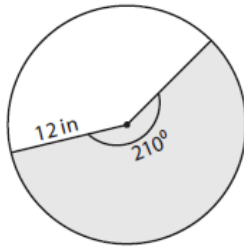
3) Divide: $\frac{3}{x^2 - 9} \div \frac{2}{x + 3}$

4) Multiply: $\frac{2x + 6}{x^2 + 10x + 25} \cdot \frac{x^2 - 25}{x^2 + 8x + 15}$

5) Simplify: $\frac{x + 1}{x^2 - 1}$

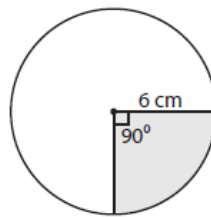
Wednesday

1)



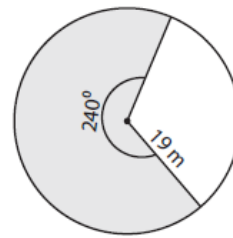
Area = _____

2)



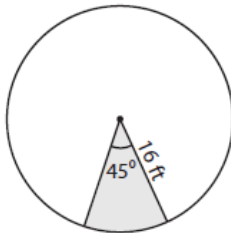
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3)



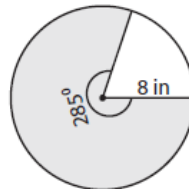
Area = _____

4)



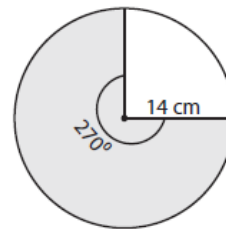
Area = _____

5)



Area = _____

6)



Area = _____

Prove the following:

1) $\sec x - \tan x \sin x = \cos x$

2) $\cos x + \tan x \sin x = \sec x$

3) $\tan x + \cot x = \sec x \csc x$

4) $1 + \tan^2 x = \sec^2 x$