

MasterMath

Dividing Polynomials; Synthetic Division

Name _____

Date _____

1. Divide $8x^3 - 12x^2 + 16x$ by $4x$

$$2x^2 - 3x + 4$$

2. $(12r^4 - 30r^2 - 72r) \div (-6r)$

$$5r + 12 - 2r^3$$

3. $(a^2 - 5a + 3) \div (a - 1)$

$$a - 4 - \frac{1}{(a - 1)}$$

4. $(5 - t^2) \div (t - 3)$

$$-t - 3 - \frac{4}{(t - 3)}$$

5. Graph the function

$$y = \frac{2x^2 - 11x - 6}{x - 6}$$

Hint: this lesson is about division.



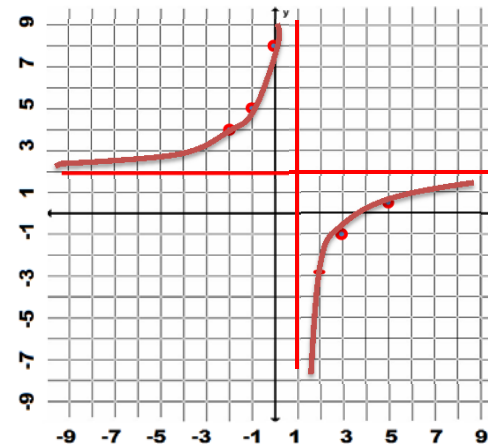
6. Graph the function

$$y = \frac{2x - 4}{x - 1}$$

Hint: What are the asymptotes?

x	y
5	0.5
3	-1.0
2	-4.0
0	8.0
-1	5.0
-2	4.0

$$y = \frac{-6}{x - 1} + 2$$



7. Use Synthetic Division to find the quotient:

$$(x^3 - x^2 - 14x + 11) \div (x - 4)$$

4

1	-1	-14	11
	4	12	-8
1	3	-2	3

$$x^2 + 3x - 2 + \frac{3}{x-4}$$

8. Use Synthetic Division to find the quotient:

$$(2x^3 - 4x - 8) \div (x - 2)$$

2

2	0	-4	-8
	4	8	8
2	4	4	0

$$2x^2 + 4x + 4$$