

Depending on the cycle, washing a load of clothes takes from 22 to 28 minutes. Drying takes an additional 20 to 30 minutes. What are the minimum and maximum total times to complete a load of laundry?

- 22 minutes and 28 minutes
- 28 minutes and 48 minutes
- 28 minutes and 58 minutes
- 42 minutes and 48 minutes
- 42 minutes and 58 minutes

If the average of 7 numbers is greater than 7 and less than 12, which of the following could be the sum of the 7 numbers?

- 84
- 77
- 49
- 42
- 35

$$7 < \frac{x}{7} < 12$$

$$49 < x < 84$$

Notes: Dividing Polynomials Using Synthetic Division

Divide using synthetic division.

1. $(x^2 - 3x - 18) \div (x - 6)$

x^2	x	c
6		-3
+		-18
6		18
x		3
c		0
		remainder

$\swarrow \times 6$ $\swarrow \times 6$

$x + 3$

2. $(2x^2 + 7x + 3) \div (x + 3)$

$$\begin{array}{r} x^2 \quad x \quad c \\ -3 \overline{) 2 \quad 7 \quad 3} \\ + \quad \downarrow \quad -6 \quad -3 \\ \hline 2 \quad 1 \quad 0 \\ x \quad c \quad \text{rem.} \end{array}$$

$$2x + 1$$

3. $(6x^2 - 5x - 6) \div (x - 2)$

	x^2	x	c
2	6	-5	-6
+	↓	12	14
	6	7	8
	x	c	rem

$\nearrow \times 2$ $\nearrow \times 2$

$6x + 7 + \frac{8}{x-2}$

4. $(3x^4 - x^3 + 5x^2 + 7x - 1) \div (x + 1)$

	x^4	x^3	x^2	x	c
-1	3	-1	5	7	-1
+	↓	-3	4	-9	2
	3	-4	9	-2	1
	x^3	x^2	x	c	rem.

$$3x^3 - 4x^2 + 9x - 2 + \frac{1}{x+1}$$

5. $(5x^3 + 6x + 8) \div (x - 1)$

	x^3	x^2	x	c
1	5	0	6	8
+	↓	5	5	11
	5	5	11	19
	x^2	x	c	rem

$$5x^2 + 5x + 11 + \frac{19}{x-1}$$

6. $(4x^5 - 129) \div (x + 2)$

	x^5	x^4	x^3	x^2	x	c
-2	4	0	0	0	0	-129
+	↓	-8	16	-32	64	-128
	4	-8	16	-32	64	-257
	x^4	x^3	x^2	x	c	rem

$$4x^4 - 8x^3 + 16x^2 - 32x + 64 - \frac{257}{x+2}$$