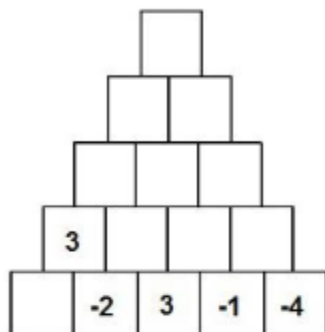


POWERS AND INTEGERS TEST - 2º ESO

Exercise 1: (1 point) Complete this addition pyramid. The number in each brick is found by adding the two directly below it.



Exercise 2: (1.5 points) Work out the value of the following expressions:

- a) $-5 + 7 - 3 - 4 + 2 - 8 + 1 - 6 =$
- b) $(-2) \cdot (-7) + 10 : (-2) =$
- c) $-3 + 5 \cdot (-2) - 12 : (-4) - 3 \cdot 6 =$
- d) $7 - 3 \cdot (-4) + (-2) \cdot (+2) + (-20) : (-5) =$

Exercise 3: (2.25 points) Work out the value of the following expressions:

- a) $7^6 : (7^2 \cdot 7) =$
- b) $(5^9 : 5^6) \cdot (5^4 : 5^9) =$
- c) $(y^7 \cdot y) : (y^3 \cdot y^5) =$
- d) $(5^3)^{-6} : (5 \cdot 5^4)^2 =$
- e) $(18^9 : 3^9) : (3^5 \cdot 2^5) =$
- f) $3^2 + 3^3 =$

Exercise 4: (1.5 points) Work out the value of the following expressions:

- a) $\frac{a^3 \cdot a \cdot b^5}{a^2 \cdot b^6} =$
- b) $-2^4 =$
- c) $(-3)^3 =$
- d) $\frac{15^3 \cdot 3^7 \cdot 5^4}{5^2 \cdot (3^2)^3} =$

Exercise 5: (0.75 points) The area of a square is 121 m^2 .

- a) Find the length of the side of the square
- b) How many meters of rope do I need to round it?
- c) If the price of each meter is 7€, how much money will it cost?

Exercise 6: (1.5 points) Work out the value of the following expressions:

a) $\sqrt{49} : 7 + 20 : \sqrt{10+6} + (5-8)^2 - (-2)^3 =$

b) $-5 + 2 \cdot \sqrt{25} - (-1)^{27} + (\sqrt{81} - \sqrt{36})^2 + 2^3 =$

Exercise 7: (0.75 points) Work out:

a) $\sqrt{8100000000} =$

b) $\sqrt[3]{5^3 \cdot 3^6 \cdot 2^9} =$

c) $\sqrt[5]{320000000000} =$

Exercise 8: (0.75 points) An elevator is on the second floor. It goes down three floors and then down another floor. Then it goes up five floors and finally three floors down. Where is the elevator now? Write the operation that you need to do in order to solve the problem.