

「解析基礎 PreCal」

Class

Number

Name

Date

宿題：複素数
Homework : Complex Numbers

1. 以下の複素数の実部と虚部を答えなさい。

Find the real and imaginary parts of the complex number.

(1) $5 - 7i$

(2) $-6 + 4i$

(3) 3

(4) $-\frac{2}{3}i$

(5) $\frac{-2 - 5i}{3}$

(6) $\frac{4 + 7i}{2}$

(7) $\frac{6i - 5}{3}$

2. 以下を計算し、答えを $a + bi$ の形で表わしなさい。

Evaluate each expression and write the result in the form $a + bi$.

(1) $(3 + 2i) + 5i$

(2) $3i - (2 - 3i)$

(3) $4 \cdot (-1 + 2i)$

(4) $(5 - 3i) + (-4 - 7i)$

(5) $(-3 + 4i) - (2 - 5i)$

(6) $-2 \cdot (3 - 4i)$

(7) $(-6 + 6i) + (9 - i)$

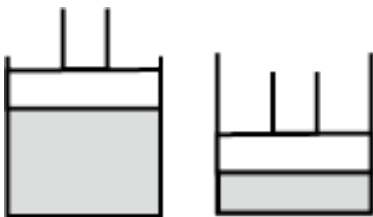
(8) $(3 - 2i) + (-5 - \frac{1}{3}i)$

(9) $(7 - i)(4 + 2i)$

Gases – Bernoulli's Principle

All answers to 3 significant digits. Remember to include units in your answers.

Q1) The pressure of a gas in the 4.0×10^{-3} [m³] container is 2.0×10^5 [Pa]. When the container was compressing slowly to 1.0×10^{-3} [m³] with same temperature, calculate the pressure of compressed gas.



Q2) The gas of 2.0 [L] volume, and 1.0×10^5 [Pa] pressure in a certain temperature is compressed to 5.0×10^5 [Pa]. Calculate the volume of the gas.

Q3) There is a water tank with a small hole at the bottom. If the water level $h = 0.60$ [m], calculate the velocity of the water getting out from the hole.



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Linear Motion – Velocity and Acceleration pp.47 - 52

母国語が英語以外の学生は(J)と書かれた部分の母国語訳もしてください。

Check 1) Physical Term

1. relative : (Definition) _____

(J) _____ : (定義) _____

2. speed : (Definition) _____

(J) _____ : (定義) _____

3. instantaneous speed : (Definition) _____

(J) _____ : (定義) _____

4. average speed : (Definition) _____

(J) _____ : (定義) _____

5. velocity : (Definition) _____

(J) _____ : (定義) _____

6. acceleration : (Definition) _____

(J) _____ : (定義) _____

Check 2) Important sentences of textbook.

1. _____

(J) _____

2. _____

(J) _____

3. _____

(J) _____

4. _____

(J) _____

Check 3) Important formulas

Formula for Speed :

Formula for acceleration :
