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 *pieczątka szkoły*

**Bolesławiecki Konkurs Matematyczny dla klas III liceum i klas IV technikum**

**Etap szkolny**

**8.01.2025 r. godz.** ..............

Imię i nazwisko…………………………………………………………………………………

**Zadanie 1.**

Wykaż, że dla każdej liczby rzeczywistej x > 1 oraz dla każdej liczby rzeczywistej prawdziwa jest nierówność:

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 *pieczątka szkoły*

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**Etap szkolny**

**8.01.2025 r. godz.** ..............

Imię i nazwisko………………………………………………………………………………

**Zadanie 2.**

Ile naturalnych dzielników ma liczba 930930?

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**8.01.2025 r. godz.** ..............

Imię i nazwisko………………………………………………………………………………

**Zadanie 3.**

W pojemniku była pewna ilość wody. Rozpuszczono w niej tyle soli kuchennej, że otrzymano roztwór o stężeniu 8%. Gdyby dosypać do niego jeszcze 100 g soli, to stężenie roztworu byłoby równe 10%. Ile wody, a ile soli kuchennej użyto do sporządzenia tego roztworu?

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 *pieczątka szkoły*

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Imię i nazwisko………………………………………………………………………………

**Zadanie 4.**

W trójkącie o danym polu S podzielono każdy bok na trzy równe części i połączono odcinkami punkty podziału co drugi, tworząc dwa trójkąty. Oblicz pole sześciokąta będącego wspólną częścią tych trójkątów.

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 *pieczątka szkoły*

**Bolesławiecki Konkurs Matematyczny dla klas III liceum i klas IV technikum**

**Etap szkolny**

**8.01.2025 r. godz.** ..............

Imię i nazwisko………………………………………………………………………………

**Zadanie 5.**

Cztery jednakowe kule o promieniu r stykają się każda z każdą. Oblicz promień najmniejszej kuli, która je wszystkie obejmuje.

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