## B2. Powers

represent numbers in various ways, evaluate powers, and simplify expressions by using the relationships between powers and their exponents

**4**
**KU**
Which value is equivalent to $3.5 \times 10^5$?

A | 350

B | 35 000

C | 350 000

D | 3 500 000

**5**
**AP**
An equation is shown.

$$\frac{(x^6y^3)(x^\square y^8)}{x^3y^4} = x^{12}y^\triangle$$

Select the values that make this equation true:

$\square$ = _____ [6, 7, 9] and $\triangle$ = _____ [6, 7, 9].

**6**
**TH**
Select the expression that has the value that is the least.

A | $\frac{1}{4}\left(\frac{(4^3)^2}{4^4}\right)$

B | $\frac{1}{2}\left(\frac{4^3}{4^4}\right)^2$

C | $\frac{1}{2}\left(\frac{(4^3)^2}{4^4}\right)$

D | $\frac{1}{4}\left(\frac{4^3}{4^4}\right)^2$

**B3. Number Sense and Operations**

apply an understanding of rational numbers, ratios, rates, percentages, and proportions, in various mathematical contexts, and to solve problems

**7**
**KU**
Which rational number is equivalent to $-\dfrac{5}{6}$?

A  $\dfrac{-10}{12}$

B  $-\dfrac{-5}{6}$

C  $\dfrac{10}{12}$

D  $\dfrac{5}{6}$

**8**
**AP**
The temperature is measured five times.

The first temperature measured is 7 °C.
The temperature goes down by 13 °C, up by 4 °C, down by 9 °C, and then up by 1°C.

What is the final temperature measured?

A  −20 °C

B  −10 °C

C  10 °C

D  17 °C

**9**
**TH**
There are 42 students:

- $\dfrac{6}{7}$ of the students are members of a school club;

- $\dfrac{1}{4}$ of the students who are members of a school club are members of the school environmental club.

How many of these students are members of a school club but are **not** members of the school environmental club?

A  18 students

B  24 students

C  27 students

D  36 students

# C. ALGEBRA

## C1. Algebraic Expressions and Equations

demonstrate an understanding of the development and use of algebraic concepts and of their connection to numbers, using various tools and representations

**10** What is a simplified form of this expression?

**KU**

$-3x(4x^2 - 5)$

A | $-12x^2 - 15x$

B | $-12x^3 - 5$

C | $-12x^2 + 15$

D | $-12x^3 + 15x$

**11** For each expression, select the appropriate

**AP** choice.

| | Equivalent to $4n - 2$ | Equivalent to $4n - 8$ |
|---|---|---|
| $(3n - 4) + (n + 2)$ | ☐ | ☐ |
| $4(n - 2)$ | ☐ | ☐ |
| $(5n + 6) - (n + 8)$ | ☐ | ☐ |

**12** There are a total of 90 red and yellow tiles.

**TH**

There are 5 times as many red tiles as yellow tiles.

How many red tiles are there?

A | 15 tiles

B | 18 tiles

C | 72 tiles

D | 75 tiles