# EXAM-STYLE CLASS TEST

| MARKS | DURATION | QUESTIONS |
|---|---|---|
| 33 | 50 minutes | 3 |

Name: ..... Class: .....

Date: .....

MARK ____ / 33

**INSTRUCTIONS AND INFORMATION**

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

## QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

**1.1** Make $x$ the subject of $y = mx + c$. (1)

**A)** $\frac{y-c}{m}$ **B)** $\frac{y}{m} - c$

**C)** $y - c - m$ **D)** $\frac{y+c}{m}$

**1.2** Make $r$ the subject of $A = \pi r^2$. (1)

**A)** $A \div \pi$ **B)** $\sqrt{A\pi}$

**C)** $A^2 \div \pi$ **D)** $\sqrt{A \div \pi}$

**1.3** Make $h$ the subject of $V = \frac{1}{3}\pi r^2 h$. (1)

**A)** $\frac{3V}{\pi r}$ **B)** $\frac{3V}{\pi r^2}$

**C)** $\frac{V}{3\pi r^2}$ **D)** $\frac{V}{\pi r^2}$

**1.4** Make $b$ the subject of $P = 2(l + b)$. (1)

**A)** $\frac{P}{2l}$ **B)** $P - 2l$

**C)** $\frac{P-2l}{2}$ **D)** $\frac{P}{2} - 2l$

**1.5** Make $x$ the subject of $ax + b = cx + d$. (1)

**A)** $\frac{d-b}{a-c}$ **B)** $\frac{b-d}{a-c}$

**C)** $\frac{d-b}{c-a}$ **D)** $\frac{d+b}{a+c}$

**1.6** Make $a$ the subject of $v^2 = u^2 + 2as$. (1)

**A)** $\frac{v-u}{2s}$ **B)** $\frac{v^2+u^2}{2s}$

**C)** $\frac{v^2-u^2}{s}$ **D)** $\frac{v^2-u^2}{2s}$

**1.7** Make C the subject of $\mathrm{F} = \frac{9}{5}\mathrm{C} + 32$. (1)

**A)** $\frac{5}{9}\mathrm{F} - 32$ **B)** $\frac{5}{9}(\mathrm{F} + 32)$

**C)** $\frac{9}{5}(\mathrm{F} - 32)$ **D)** $\frac{5}{9}(\mathrm{F} - 32)$

**1.8** Make $n$ the subject of $\mathrm{T}_n = a + (n-1)d$. (1)

**A)** $\frac{\mathrm{T}_n + a}{d} + 1$ **B)** $\frac{\mathrm{T}_n - a}{d} + 1$

**C)** $\frac{\mathrm{T}_n - a}{d}$ **D)** $\frac{\mathrm{T}_n - a + 1}{d}$

**1.9** Make $x$ the subject of $\frac{x}{a} + \frac{x}{b} = 1$. (1)

**A)** $\frac{a+b}{ab}$ **B)** $ab$

**C)** $\frac{ab}{a+b}$ **D)** $\frac{ab}{a-b}$

**1.10** Make $y$ the subject of $3x - 2y = 12$. (1)

**A)** $\frac{12-3x}{2}$ **B)** $\frac{3x-12}{2}$

**C)** $3x - 12$ **D)** $\frac{3x+12}{2}$

**ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1**

| | | | | |
|---|---|---|---|---|
| **1.1** | A | B | C | D |
| **1.2** | A | B | C | D |
| **1.3** | A | B | C | D |
| **1.4** | A | B | C | D |
| **1.5** | A | B | C | D |
| **1.6** | A | B | C | D |
| **1.7** | A | B | C | D |
| **1.8** | A | B | C | D |
| **1.9** | A | B | C | D |
| **1.10** | A | B | C | D |

## QUESTION 2 [12 MARKS]

Change the subject of each formula as instructed. Show ALL your steps.

**2.1** Make $x$ the subject of $y = 2x + 6$. (3)

**2.2** Make $r$ the subject of $V = \pi r^2 h$, and hence calculate $r$ if $V = 500$, $h = 10$ and $\pi \approx 3{,}14$, correct to TWO decimal places. (5)

**2.3** Make $x$ the subject of $ax = bx + c$. (4)

## QUESTION 3 [11 MARKS]

Answer the questions below.

**3.1** Make $n$ the subject of $A = P(1 + in)$. **(4)**

**3.2** Hence determine how many years it takes R$1\,000$ to grow to R$1\,400$ at $10\%$ p.a. simple interest. **(4)**

**3.3** Explain, in words, the method used when the required letter appears TWICE. **(3)**

**TOTAL: 33 marks**

*This question paper consists of 3 questions.*

© Danemathics — free to print and share for classroom use.