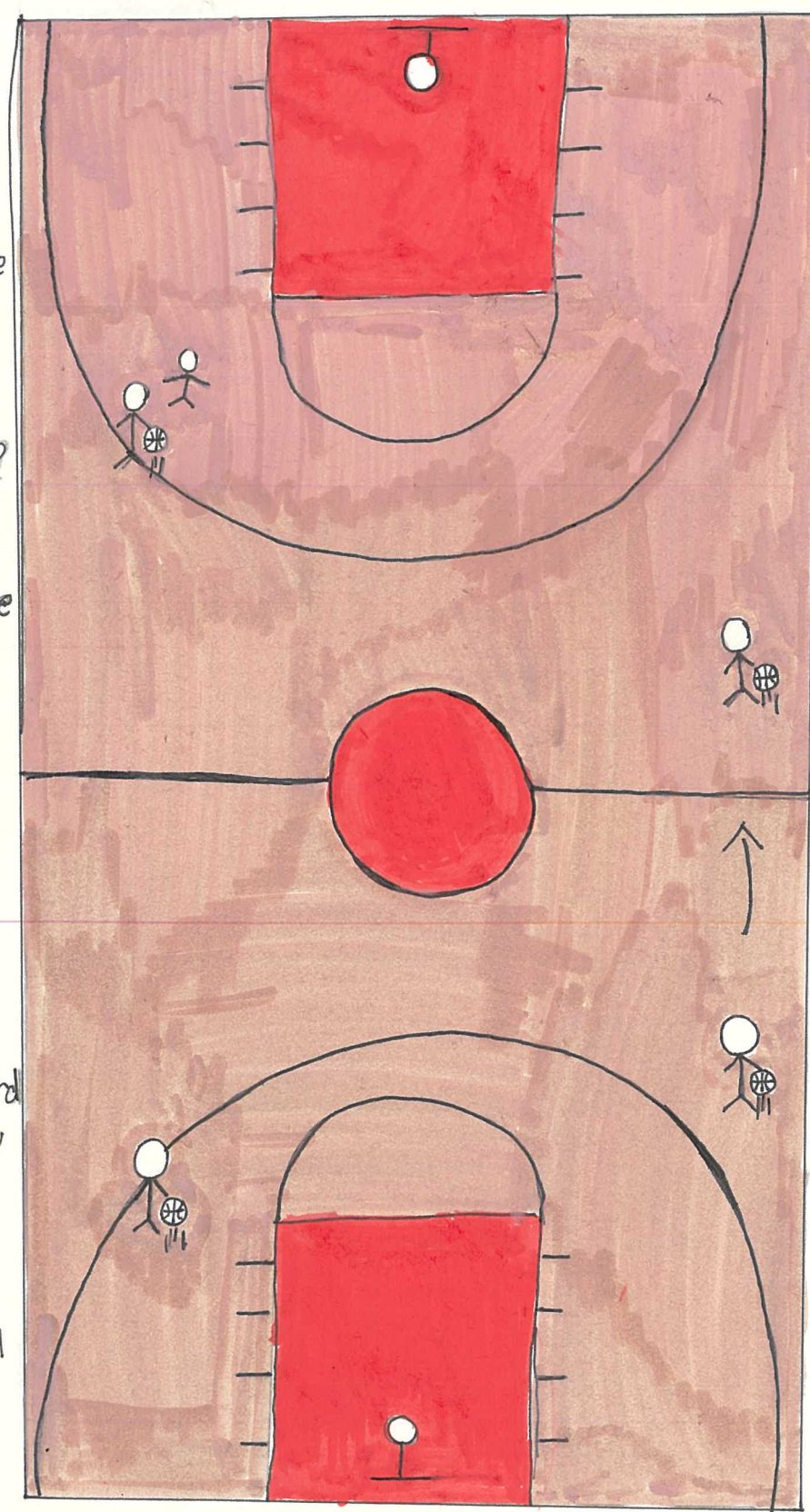


MATH POST DAILY



Q1. 5 seconds left
Dribble the ball
to the front
court to score,
which angle to
dribble is the
best?
A. 90° B. 80°
C. 50° D. 35°

Q2.
The point guard
wants to slow
down to give
instruction to
his teammates,
which angle to
dribble the ball
is the best?
A. 45° B. 90°
C. 80° D. 35°

Q3.
When the offensive
player wants to
dribble past the
defender, which
angle is the best?
A. 90° B. 50°
C. 35° D. All of the
above

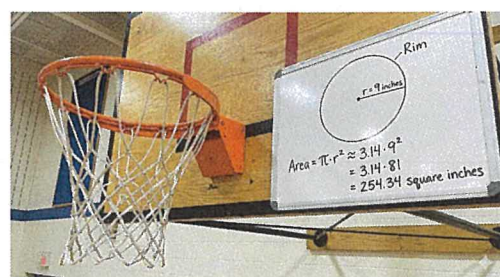
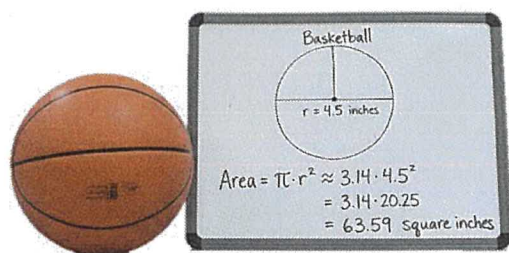
Q1. D

Q2. C

Q3. D

The Secret to Scoring: The Magic Arc

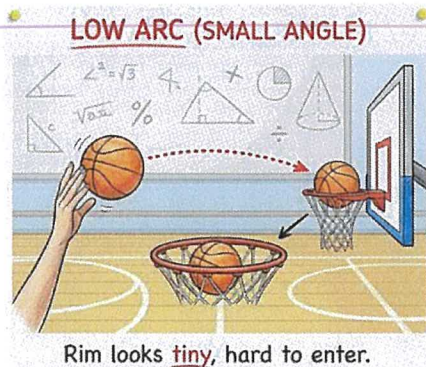
The Big Rim Mystery Did you know that a basketball hoop is actually huge compared to the ball?



If we use math to measure the **area** (the space inside the circle), the opening of the rim is almost **four times bigger** than the basketball at its widest point! With so much extra space, it sounds like it should be incredibly easy to make every shot. So, **why do we still miss?**

The Problem: The "Squashed" Circle

The problem isn't the size of the hoop; it is **geometry** and angles!

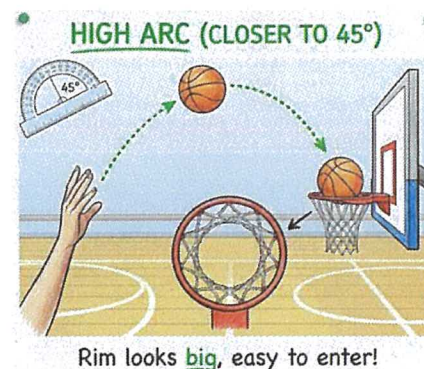


When you throw the ball straight at the basket with a "flat" shot (a low angle), the ball doesn't "see" a perfect circle. If your aim isn't perfect, the ball will hit the front or back rim and bounce out.

THE MAGIC ARC: BASKETBALL SHOOTING GEOMETRY

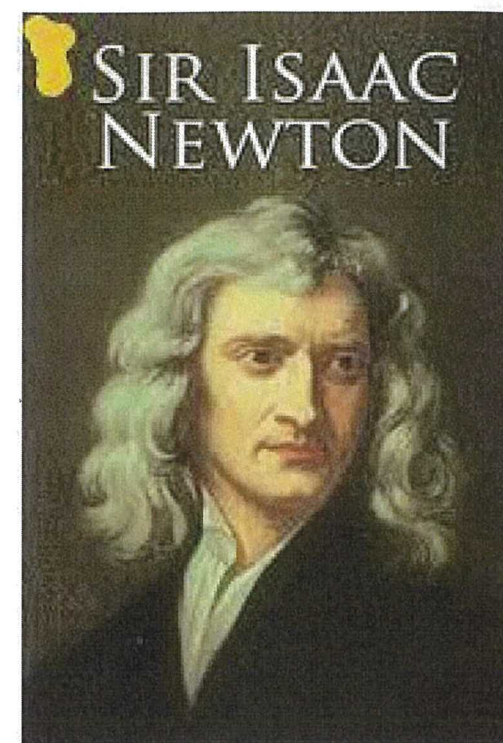
The Solution: The Magic 45-Degree Arc To make the hoop look big again, you need to change the angle. You need the "Magic Arc"!

Mathematicians and coaches agree that shooting the ball up high—closer to a **45-degree angle**—is the best strategy. When the ball drops straight down from high above, the rim looks like a big, wide-open circle again.



History of Mathematicians

Newton on the Basketball Court?



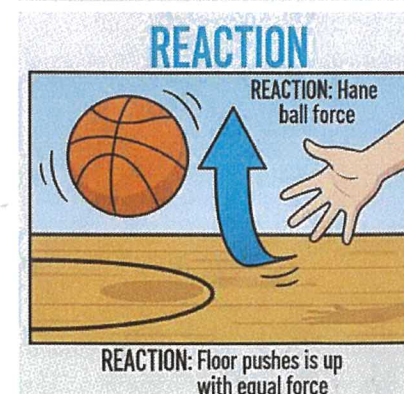
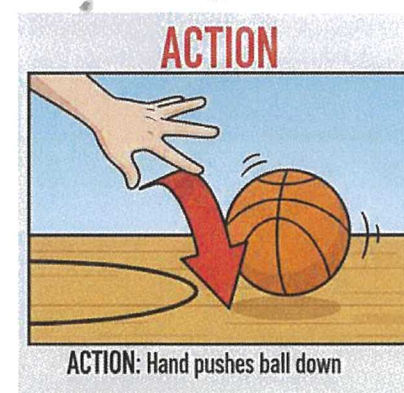
The Law of Gravity (Why the ball comes down)

Isaac Newton discovered **Gravity**. Without gravity, basketball would be impossible! When you shoot a 3-pointer, you throw the ball **UP**, but Newton's gravity pulls it **DOWN** into the net.

•**The Math:** If there were no gravity, your shot would just float away into space forever!

The Third Law of Motion (The Secret to Dribbling)

Newton had a famous rule: *"For every action, there is an equal and opposite reaction."* This is exactly how **dribbling** works!



Fun Fact:

If you try to dribble on a pillow, the ball won't come back up. Why? Because **the pillow absorbs the energy** and doesn't push back like the hard floor does. Newton explains why we need a hard court to play!

31
保良局陸慶濤小學

2025-2026 年度

五年級數學科閱讀計劃 (請於 3/1 或以前完成)

學生姓名: 梁翹萱

班別: 五勒

《數學日報》

假設你是《數學日報》的編輯部，負責設計一份報章供同學們閱讀，報章內容包括以下幾部份：

(一) 必須包含：「運動與數學」主題

你可搜尋及分享一則「運動與數學」的訊息(網頁/報刊/書籍)，着重於分析及研究其中一些數據，提出問題或解決方法。你也可以製作統計圖表達統計結果。

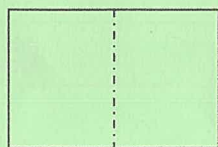
(二) 選項：(至少選 2 部份) (BASKETBALL)

1. 數學家的歷史 NEWTON
2. 數學新聞
3. 數學小百科 (如與生活或大自然有關的數學知識)
4. 趣味數學 (可設計一些貼合五年級程度，有趣的數學題或遊蹤題目)
5. 自擬其他數學主題

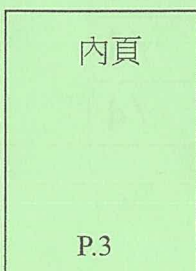
你可以從課外書籍、報章或網上搜尋有關資料，設計一份富有創意的《數學日報》，然後向全班同學作簡單的介紹。

*《數學日報》的大小必須為 A3(297mmx420mm)，最少包括一頁封面及 3 頁的內容。

設計範本



(把 A3 畫紙對摺成為 A4)



數學閱讀 fun fun fun

任務：閱讀最少 3 本介紹數學知識、數學歷史、數學小百科等書籍，搜集和記錄有用的資料來設計你的日報。（也可利用互聯網搜尋資料。）

書名/網頁名稱	作者	索書號	圖書來源/網址
1. The science behind Sport	Chris Oxlade	J796.015 OXL	香港公共圖書館(HKPL)
2. Basketball The Math of the game	Thomas K. Adanson	J796.3230151 ADA 2	香港公共圖書館(HKPL)
3. STEM IN SPORTS : MATH	James Buckley Jr	J796.0151 BUC	香港公共圖書館(HKPL)
4.			

《數學日報》簡介

以約 120 字介紹你的日報內容及特色。

This post is about the relationship between the 'magic' shooting angle and Isaac Newton, the law of Gravity. The design of the cover is a basketball with a hoop beside a lot of math symbols. To make it more interesting, I created three questions to conclude the post.

整體成績：

內容豐富	✓	/4	總分：	能量值：
數學元素	✓	/4	20 /20	10 /10
排版	✓	/4		
創意性	✓	/4		
趣味性	✓	/4		

老師簽署：

