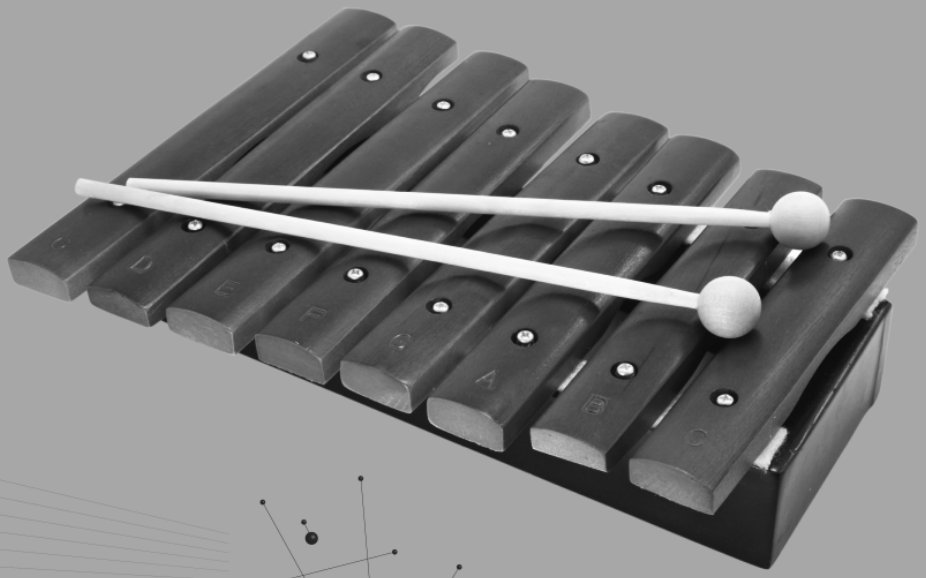
MIDDLE YEARS

Revised Australian Edition

Real-Life Maths

Fractions, Ratios & Rates



Engaging lessons that will put maths into the context of real-world situations relevant to your students' lives

TOM CAMPBELL

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TEACHER'S PAGE

2. Selling Carpet

Goal

to learn about fractions and areas in the context of selling carpeting by the square metre

Context

Most floor coverings are sold by the square metre. Carpeting in particular is priced this way. The shape of the original roll of carpet is not as important as the area of the actual room. Students may have lived in homes where carpeting was installed or may be interested in a sales position, such as that of a carpet salesperson.

Teaching Notes

Students need to be familiar with conversions among metres, centimetres and millimetres, and with how to calculate the area of non-rectangular polygons with right-angle corners. The easiest way to do this is to break the shapes into consecutive rectangles, multiply sides to find their various areas, and then add these various areas.

Extension Activity

Ask students to measure several rooms in the school or at home in order to find the exact floor area of the space.

Answers

1. The Winstons should be charged $213.31.
2. The Khins should be charged $312.62.
3. The Traftons should be charged $306.25.
4. The Cowens should be charged $560.4.
5. The Taylors should be charged $1021.34.

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Name _____ Date _____

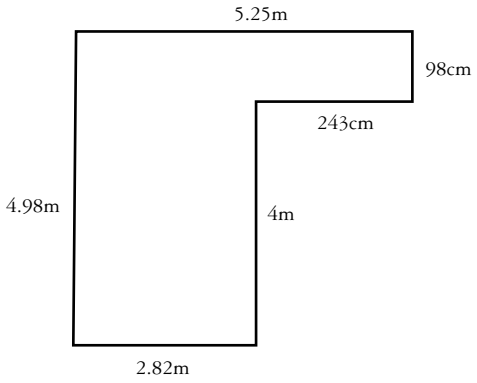
2. Selling Carpet

Kevin's Carpet World has been installing office carpeting for years. They are now trying to break into the home carpeting business. When customers come into the salesroom, Kevin asks them to bring an accurate floor plan of the room(s) to be carpeted. The staff can then calculate how many square metres of the floor is to be carpeted, to determine the price of the carpeting. Kevin's prices include a 3-kilogram pad and installation, so customers have only one price to consider.

For each situation below, help Kevin determine the price of the carpet installation.

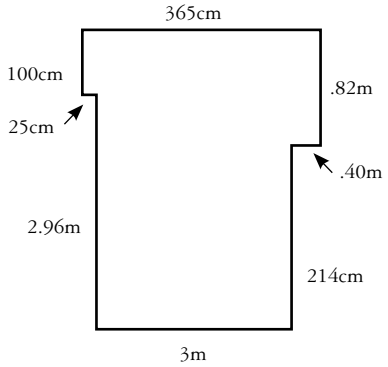
1. The Winston family is installing a playroom in their basement. They like the Berber carpet that is on sale for $12.99 a square metre. What price should be charged assuming the following floor plan is accurate?

   Total cost: _____



2. The Khin family is carpeting their living room. They have chosen a deep-pile carpet that sells for $24.95 a square metre. How much should they be charged based on the following floor plan?

   Total cost: _____



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TEACHER'S PAGE

3. Sporting Standings

Goal

to be able to read and create a chart of the standings in a sporting conference or division

Context

Sporting standings are not always as easy to figure out as they might appear. Placement in the table, with first place on the top, is usually based on "winning percentage". The GB, or "games behind" column contains either a whole number or a mixed number including $\frac{1}{2}$. Sometimes the first-place team is "behind" the second-place team because they have not played the same number of games.

Teaching Notes

Two columns in the following softball and basketball standings are of interest (neither sport has ties, which change this procedure): Winning Percentage "PCT", which is the number of wins divided by the number of games played so far, and Games Behind "GB", which is the number of wins by Team A minus the number of wins by Team B, plus the number of losses by Team B minus the number of losses by Team A. This sum is divided by 2. If this result is positive, it is the number of games B is behind A, and if it is negative, the number of games A is behind B.

Extension Activities

Have students use the newspaper to find standings for their favourite AFL or NRL teams, and check their accuracy.

Answers

1. Local Softball Standings 2009

Team	Wins	Losses	PCT	GB
Phoenix	93	69	.574	–
Flames	92	70	.568	1
Heat	92	70	.568	1
Diamonds	90	72	.556	3
Stars	88	74	.543	5
Titans	80	82	.494	13
Swifts	80	82	.494	13
Bombers	76	86	.469	17
Thunder	66	96	.407	27
Magic	53	109	.327	40

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