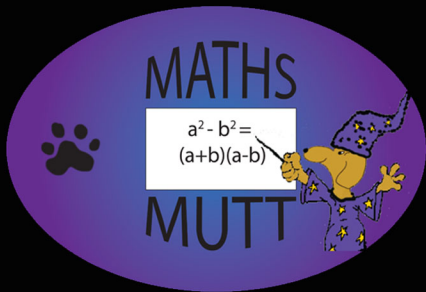


SQA Revision



Nat 5 LS Maths Check List

National 5 Lifeskills Check List

Finance: Analysing and interpreting factors affecting income.

Hourly rates of pay. ☐Salary. ☐Basic pay. ☐Gross and net pay. ☐Tax allowances. ☐Taxable Income. ☐Income Tax. ☐National Insurance. ☐Superannuation. ☐Overtime. ☐Commission. ☐Benefits. ☐

Name :	Joe Bloggs	Period	01/01/2006	31/01/2006
Employee	123456789	Tax Code	396L	
Pay and allowances		Deductions		Breakdown of Overtime
		Amount	Amount	Rate Hours
Basic Pay		£2,133.00	Income Tax	£347.60
			National Insurance	£162.15
			Superannuation	£127.98
			Other	£79.00
Gross Pay		£2,133.00	Total Deductions	£716.73
				Net Pay
				£1,416.27

Finance: Analysing a financial position using budget information.

Income. ☐Expenditure. ☐Percentage profit and loss. ☐Utility bills. ☐VAT ☐Appreciation. ☐Depreciation. ☐Hire purchase. ☐Insurance. ☐Bank and credit charges. ☐Credit agreements. ☐

Meter Reading		Number of units used	Cost per Unit (pence)	Total £
Present	Previous			
95880	90880	5000	5.43	271.50
			Service Charge	27.80
				299.30
			VAT 8%	23.94
			Total Due	323.24

Notes

National 5 Lifeskills Check List

Finance: Determining the best deal, given three pieces of information.

Unitary conversions. ☐

Back / reverse percentage. ☐

Effect of VAT. ☐

Total cost = price + VAT

VAT = $£350 \times 17.5\%$

$$= £350 \times \frac{17.5}{100}$$

$$= £61.25$$

Total cost = $£350 + £61.25$

Total cost = **£411.25**

Finance: Converting between several currencies.

Foreign exchange. ☐

Converting one currency into another. ☐

Converting back from a currency. ☐

Operations with several currencies. ☐

£ : \$

1 : 1.67

150 : x

$$x = £150 \times \$1.67$$

$$= \$250.50$$

Finance: Investigating the impact of interest rates on savings and borrowing.

Simple interest. ☐

Compound interest. ☐

Loans. ☐

Mortgages. ☐

Credit cards. ☐

Store cards. ☐

Start of	Value	Depreciation	£
year 1 (1998)	£ 10,000	(20% of 10,000)	<u>2,000</u>
year 2 (1999)	£ 8,000	(20% of 8,000)	<u>1,600</u>
year 3 (2000)	£ 6,400	(20% of 6400)	<u>1,280</u>
year 4 (2001)	£ 5,120	(20% of 5120)	<u>1,024</u>
year 5 (2002)	£ 4,096		

4 years later, the car is worth **£ 4096**

Capital=£10,000

Rate =80% (since depreciation)

no of years = 4

$$\text{Value} = CR^y$$

$$= 10000 \times 0.80^4$$

$$= \text{£}4096$$

Notes

National 5 Lifeskills Check List

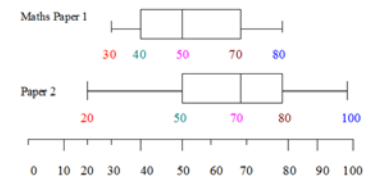
Statistics: Using a combination of statistics to investigate risk and its impact on life.

- Probability ☐
- Two Way Tables (Probability) ☐
- Insurance. ☐
- Relative Frequency. ☐

$$P(Event) = \frac{\text{number of favourable outcomes}}{\text{total number of outcomes}}$$

Statistics: Using a combination of statistical information presented in different diagrams.

- Stem and leaf diagram. ☐
- Back to back stem and leaf diagrams. ☐
- Pie charts. ☐
- Dot plot. ☐
- Box plot. ☐
- Frequency tables. ☐
- Grouped Frequency tables. ☐
- Cumulative Frequency. ☐
- Relative Frequency. ☐
- Scatter graphs. ☐
- Correlation. ☐



Statistics: Using statistics to analyse and compare data sets.

- Mean. ☐
- Mode. ☐
- Median. ☐
- Range. ☐
- 5 figure summary. ☐
- Inter quartile range. ☐
- Standard Deviation. ☐
- Spread. ☐
- Correlation ☐
- SIQR (Semi Inter Quartile Range). ☐

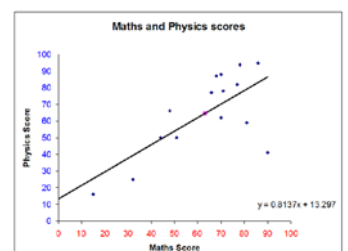
$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

and

$$s = \sqrt{\frac{\sum x^2 - (\sum x)^2 / n}{n - 1}}$$

Statistics: Drawing a line of best fit from given data.

- Line of best fit: drawing. ☐
- Line of best fit: using to make predictions. ☐



National 5 Lifeskills Check List

Geometry: Investigating a situation involving gradient.

Gradient $m = v/h$.

☐

Gradient formula.

☐

Equation of a straight line.

☐

$$\begin{aligned} & (x_1, y_1) \quad (x_2, y_2) \\ & A(-2, 6) \quad B(2, -2) \\ & \text{Gradient} = \frac{y_2 - y_1}{x_2 - x_1} \\ & m = \frac{(-2) - 6}{2 - (-2)} \\ & m = \frac{-8}{2 + 2} \\ & m = \frac{-8}{4} \\ & m = -2 \end{aligned}$$

Geometry: Solving a problem involving a composite shape which includes part of a circle.

Circle - calculating length of arcs.

☐

Circle - calculating the area of a sector.

☐

Area of a circle.

☐

Area of a kite.

☐

Area of a parallelogram.

☐

Area of a rhombus.

☐

Composite area.

☐

Surface area.

☐

$$\begin{aligned} \text{Fraction of circle} &= \frac{\text{angle at centre}}{360^\circ} \\ &= \frac{\text{length of arc}}{\pi d} \\ &= \frac{\text{area of sector}}{\pi r^2} \end{aligned}$$

Geometry: Solving a problem involving the volume of a composite solid.

Volume of a prism.

☐

Volume of a cuboid.

☐

Volume of a sphere.

☐

Volume of a cone.

☐

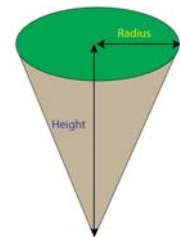
Volume of a cylinder.

☐

Volume of a pyramid.

☐

Composite volume.

☐


Geometry: Using Pythagoras' theorem within a two-stage calculation.

Finding the length of the hypotenuse.

☐

Finding the length of a shorter side.

☐

Hidden Pythagoras.

☐

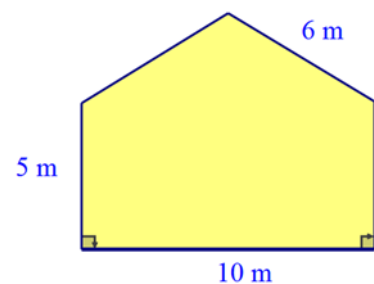
Co-ordinates and Pythagoras.

☐

Circle - Pythagoras in a circle.

☐

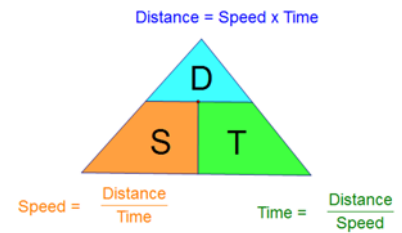
The converse of the theorem of Pythagoras.

☐


National 5 Lifeskills Check List

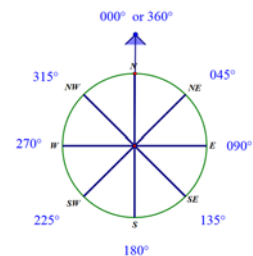
Measures: Calculating a quantity based on two related pieces of information.

- Ratio - direct proportion. ☐
- Ratio - indirect proportion. ☐
- Proportion. ☐
- Sharing in Proportion. ☐
- Distance, speed and time. ☐
- Unitary conversions. ☐
- Calculate rates (e.g. texts per month). ☐



Measures: Constructing a scale drawing, including choosing a scale. Planning a navigation course.

- Points of the compass. ☐
- Bearings. ☐
- Map scales. ☐
- Plot a course. ☐
- Use a map to find real distances. ☐



Measures: Solving a problem involving time management.

- Time units. ☐
- 12 and 24 hour clock. ☐
- Calculating time differences. ☐
- Distance, speed and time. ☐
- Journey planning using time tables. ☐

c) start
 09:45 $\xrightarrow{15 \text{ minutes}}$ 10:00
 10:00 $\xrightarrow{7 \text{ hours}}$ 17:00
 17:00 $\xrightarrow{38 \text{ minutes}}$ 17:38 finish
 7 hours 53 minutes

Measures: Carrying out efficient container packing.

- Container Packing. ☐
- Decreasing First Fit Algorithm. ☐
- Best Fit Algorithm. ☐

Measures: Using precedence tables to plan tasks.

- Reading a precedence table. ☐
- Creating a precedence table. ☐
- Using a precedence table to inform decisions. ☐

Measures: Considering the effects of tolerance.

- Tolerance. ☐

$350\text{mm} \pm 2\text{mm}$
 means the values
 $348\text{mm}, 349\text{mm}, 350\text{mm}, 351\text{mm}, 352\text{mm}$

National 5 Lifeskills Check List

Notes