

## UNIT 8 *Statistical Diagrams*

## Overhead Slides

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### **Overhead Slides**

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# OS 8.1

## Mileage Chart

	BRIGHTON									
169		BRISTOL								
120	171		CAMBRIDGE							
82	206	124		DOVER						
175	84	251	244		EXETER					
59	120	60	77	200		LONDON				
169	233	63	173	313	116		NORWICH			
109	74	81	146	154	56	144		OXFORD		
218	125	292	287	44	241	353	195		PLYMOUTH	
66	77	131	152	109	80	193	66	152		SOUTHAMPTON
160	51	218	224	34	167	280	121	75	93	
										TAUNTON

*Distances in miles*

Write down the distance between:

(a) Exeter and Norwich  miles

(b) Cambridge and Southampton  miles

(c) Oxford and Dover  miles

(d) Brighton and Plymouth  miles

(e) Bristol and London  miles

## OS 8.2

## Timetables

SATURDAY													
Letchworth	d	.....	1955	.....	.....	1955	2030	.....	2055	.....	.....	2055	2130
Hitchin	d	.....	2004	.....	.....	2004	2034	.....	2104	.....	.....	2104	2134
Stevenage	d	.....	2009	.....	.....	2030	2039	.....	2109	.....	.....	2130	2139
Watton-at-Stone	d	.....	.....	.....	.....	2037	.....	.....	.....	.....	.....	2137	.....
Hertford North	d	.....	.....	.....	.....	2043	.....	.....	.....	2113	.....	2143	.....
Bayford	d	.....	.....	2013	.....	2047	.....	.....	.....	2117	.....	2147	.....
Cuffley	d	.....	.....	2017	.....	2052	.....	.....	.....	2122	.....	2152	.....
Crews Hill	d	.....	.....	2022	.....	2055	.....	.....	.....	2125	.....	2155	.....
Gordon Hill	d	.....	.....	2025	.....	2058	.....	.....	.....	2128	.....	2158	.....
Enfield Chase	d	.....	.....	2028	.....	2100	.....	.....	.....	2130	.....	2200	.....
Grange Park	d	.....	.....	2030	.....	2102	.....	.....	.....	2132	.....	2202	.....
Winchmore Hill	d	.....	.....	2032	.....	2103	.....	.....	.....	2133	.....	2203	.....
Palmers Green	d	.....	.....	2036	.....	2106	.....	.....	.....	2136	.....	2206	.....
Bowes Park	d	.....	.....	2038	.....	2108	.....	.....	.....	2138	.....	2208	.....
Knebworth	d	.....	2013	.....	.....	.....	2043	.....	2113	.....	.....	.....	2143
Welwyn North	d	.....	2017	.....	.....	.....	2047	.....	2117	.....	.....	.....	2147
Welwyn Garden City	d	1958	2020	.....	2028	.....	2050	2058	2120	.....	2128	.....	2150
Hatfield	d	2002	2023	.....	2032	.....	2053	2102	2123	.....	2132	.....	2153
Welham Green	d	2006	.....	.....	2036	.....	.....	2106	.....	.....	2136	.....	.....
Brookmans Park	d	2008	.....	.....	2038	.....	.....	2108	.....	.....	2138	.....	.....
Potters Bar	d	2011	2029	.....	2041	.....	2059	2111	2129	.....	2141	.....	2159
Hadley Wood	d	2015	.....	.....	2045	.....	.....	2115	.....	.....	2145	.....	.....
New Barnet	d	2017	.....	.....	2047	.....	.....	2117	.....	.....	2147	.....	.....
Oakleigh Park	d	2019	.....	.....	2049	.....	.....	2119	.....	.....	2149	.....	.....
New Southgate	d	2022	.....	.....	2052	.....	.....	2122	.....	.....	2152	.....	.....
Alexandra Palace	d	2025	.....	2040	2055	2110	.....	2125	.....	2140	2155	2210	.....
Hornsey	d	2027	.....	2042	2057	2112	.....	2127	.....	2142	2157	2212	.....
Harringay	d	2029	.....	2044	2059	2114	.....	2129	.....	2144	2159	2214	.....
Finsbury Park	d	2032	2041	2047	2102	2117	2111	2132	2141	2147	2202	2217	2211
Drayton Park	d	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Highbury and Islington	d	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Essex Road	d	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Old Street	d	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorgate	a	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
London Kings Cross	a	.....	2048	2055	2110	2125	2118	2140	2148	2155	2210	2225	2218

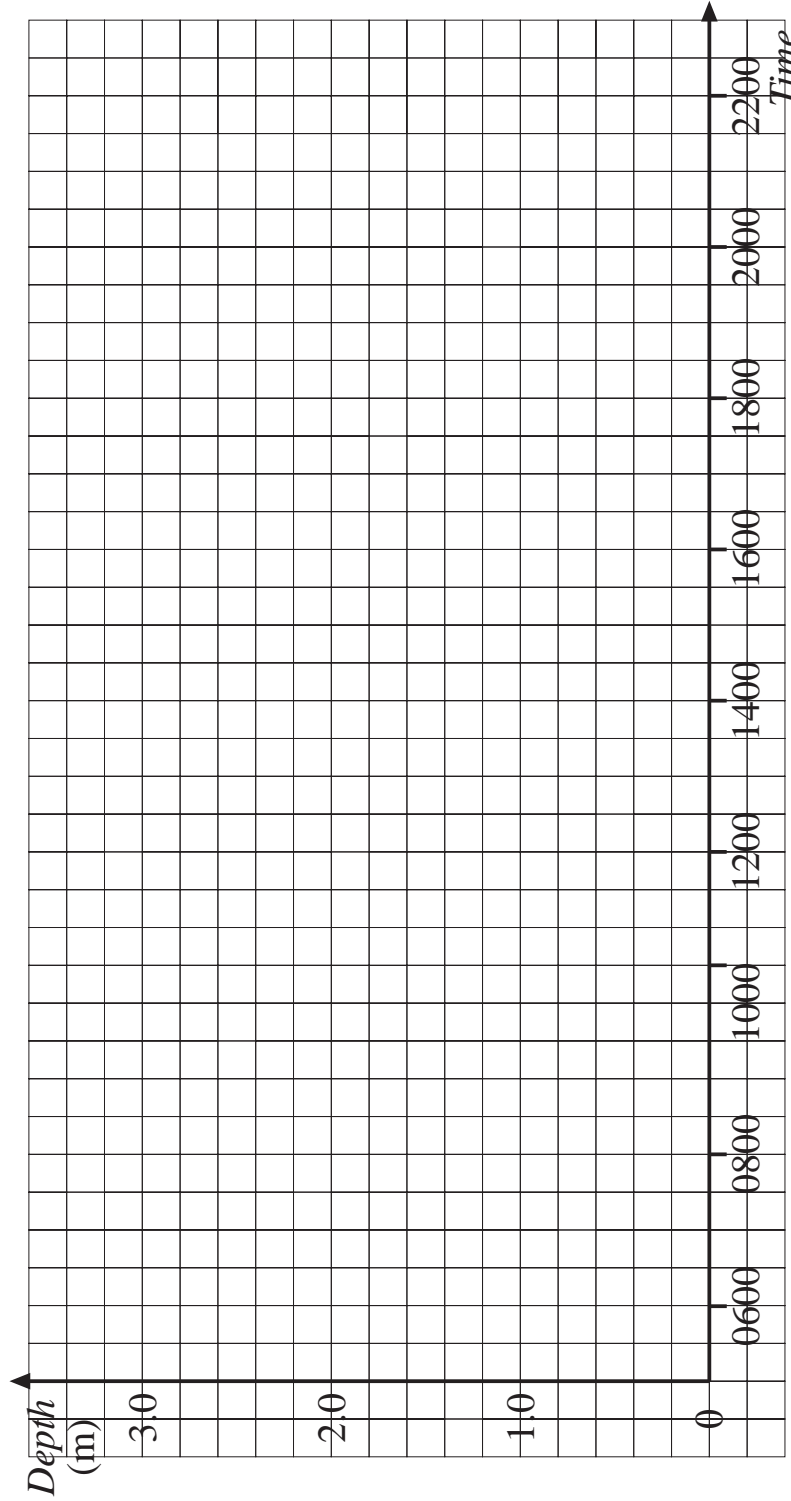
1. When does the 2039 from Stevenage arrive in London?
2. How long does it take to travel from Enfield Chase to Bowes Park?
3. Jules arrives in London at 2118. When did he leave Hitchin?
4. If you leave Alexandra Palace at 2110, when will you arrive in London?
5. What is the shortest journey time from Finsbury Park to London?
6. You get on the 1958 from Welwyn Garden City. What should you do to get to London Kings Cross?

# OS 8.3

## Line Graph

Records were kept of the depth of water in a river when a flood warning was in place.

<i>Time</i>	0600	0800	1000	1200	1400	1600	1800	2000	2200
<i>Depth of Water(m)</i>	1.6	1.9	2.1	2.2	2.4	2.6	2.9	2.8	2.4



Complete the graph and determine:

- (a) the depth of the water at 0830,
- (b) the time when the depth was 2 m,
- (c) the times when the depth was 2.5 m.



## OS 8.5

*Statistical Measures for Grouped Data*

The table shows data on the number of lengths swum as part of a sponsored swim.

Complete the table and calculate the *mean* number of lengths swum.

<i>No. of Lengths</i>	<i>Frequency</i>	<i>Midpoint</i>	<i>Frequency × Midpoint</i>
1 - 10	2		
11 - 15	8		
16 - 20	15		
21 - 30	20		
31 - 40	30		
41 - 50	7		
51 - 100	3		
TOTALS			

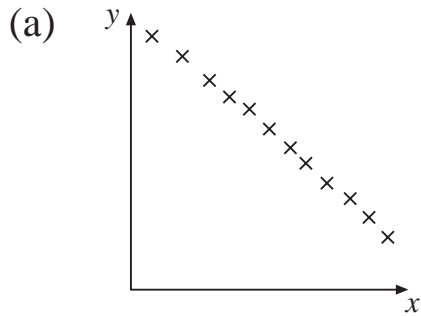
Mean = \_\_\_\_\_

=

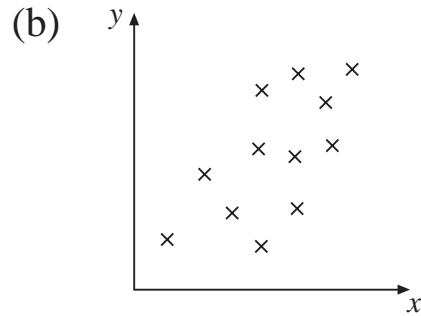
# OS 8.6

# Correlation

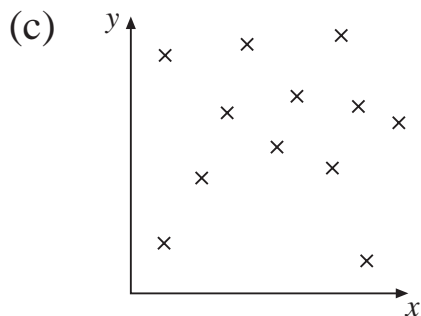
Describe the correlation shown in each of the following graphs.



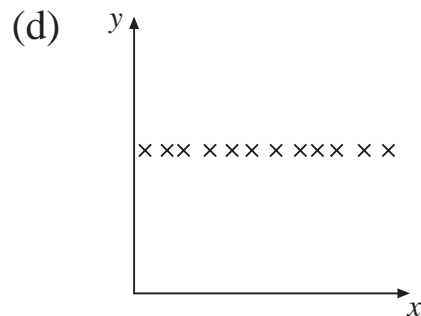
The graph shows  
\_\_\_\_\_  
correlation



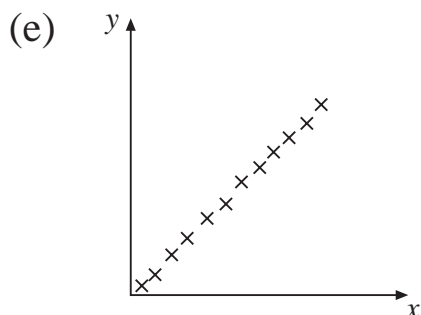
The graph shows  
\_\_\_\_\_  
correlation



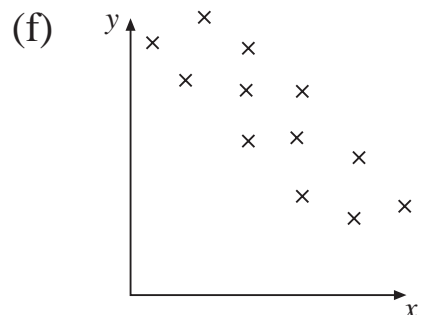
The graph shows  
\_\_\_\_\_  
correlation



The graph shows  
\_\_\_\_\_  
correlation



The graph shows  
\_\_\_\_\_  
correlation



The graph shows  
\_\_\_\_\_  
correlation

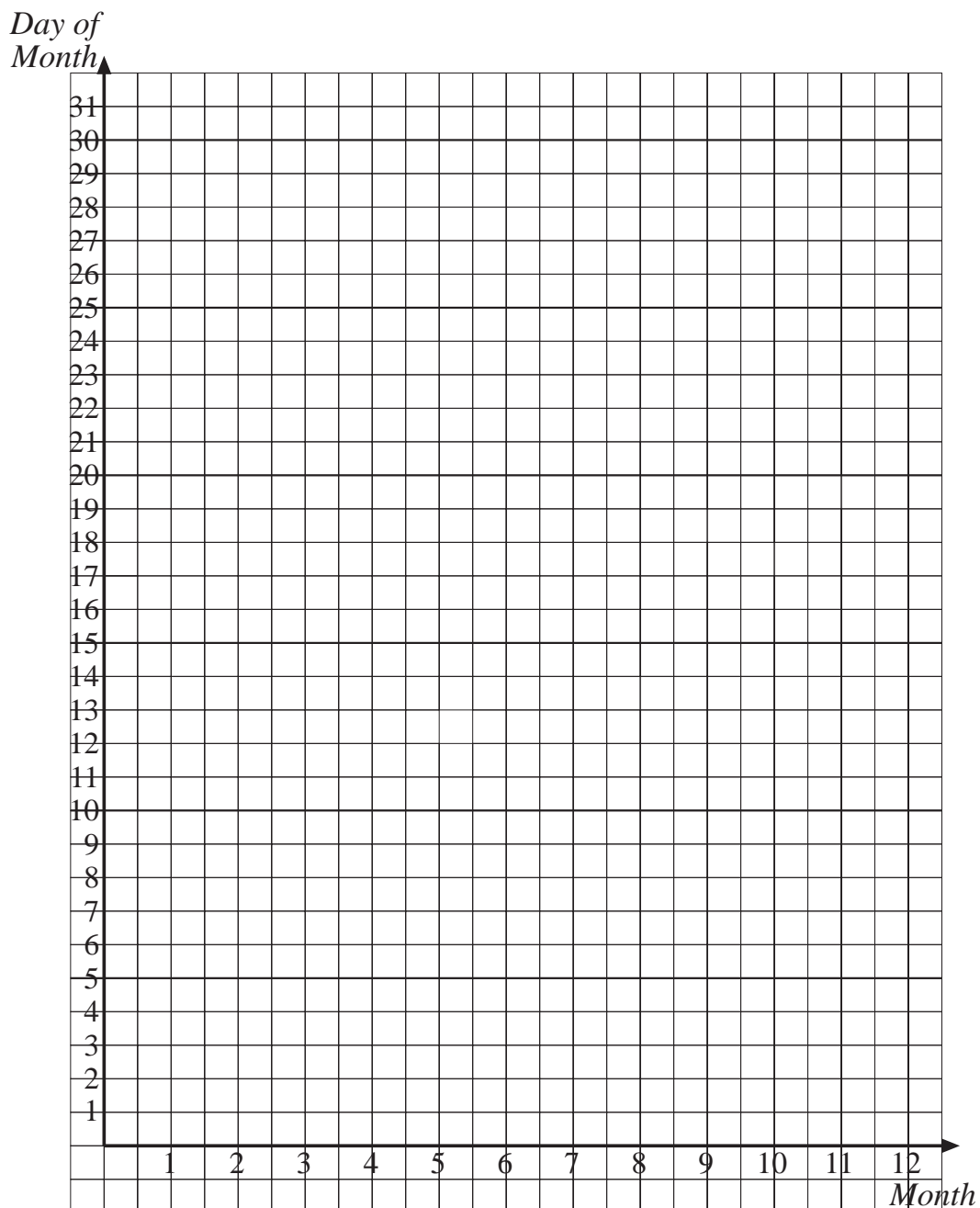
# OS 8.7

## *Birthdays*

Complete the following table for 10 people:

<i>Day of Month</i>										
<i>Month</i>										

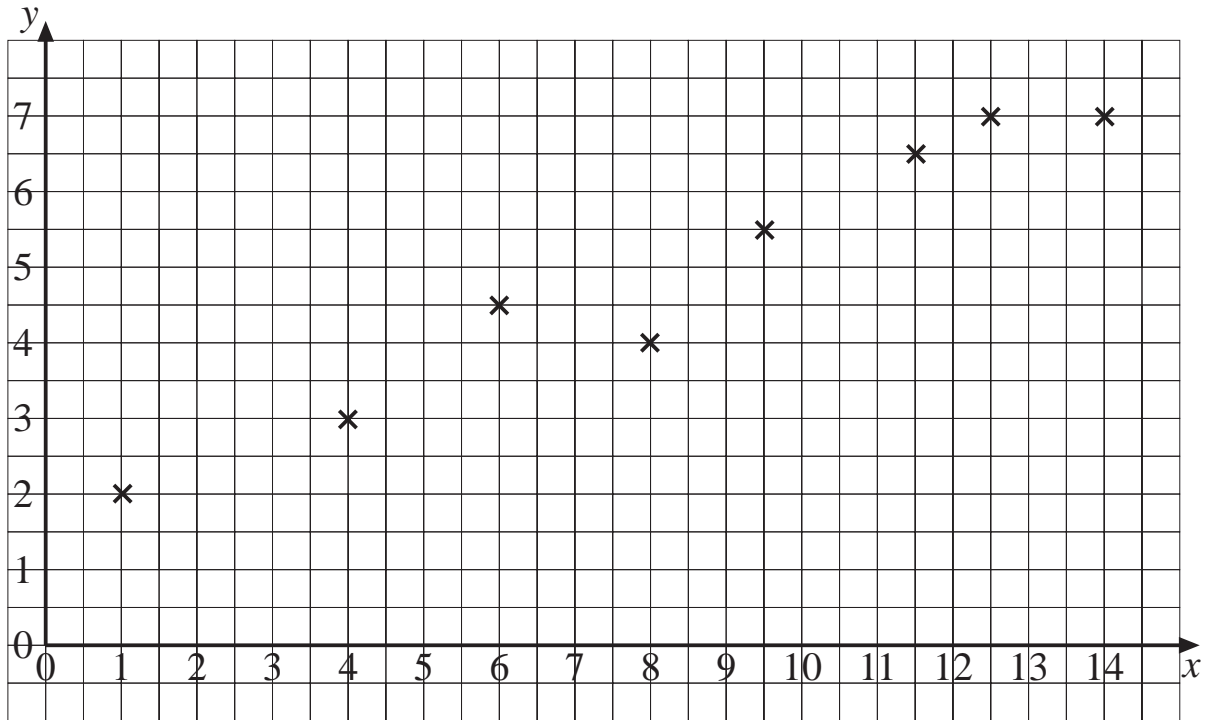
For example, if a birthday is on 17 December, enter '17' and '12'.  
 Plot the data on a scatter graph and then comment on the results.



## OS 8.8

*Line of Best Fit*

Draw a *line of best fit* through these points:



Use the line to make the following estimates:

(a) when  $x = 7$ ,  $y =$

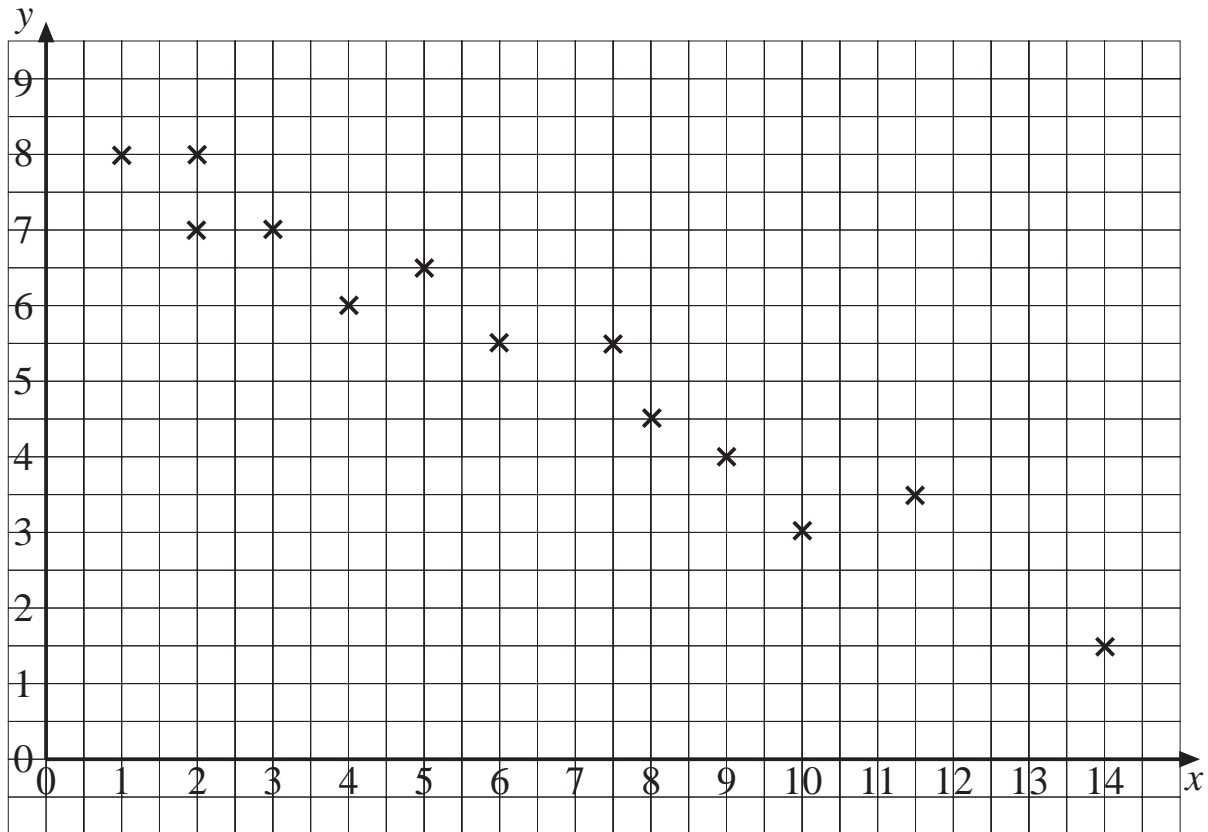
(b) when  $x = 3$ ,  $y =$

(c) when  $y = 5$ ,  $x =$

## OS 8.9

*Equation of Line of Best Fit*

Draw a line of best fit through these points:



Calculate the equation of the line you have drawn.

Use the equation to estimate the value of  $x$  when  $y = 0$ .