

Matching

Match each of the following simplified expressions on the left with its matching factored expression on the right.

11. x

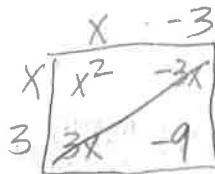
a. $(3x + 7) + (4x - 9)$
 $7x - 2$

11. E

12. $x^2 - 9$

b. $(x - 3)(x + 3)$

$x^2 - 9$

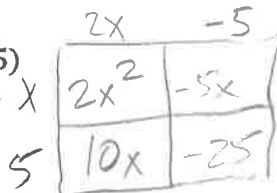


12. B

13. $7x - 2$

c. $(2x - 5)(x + 5)$

$2x^2 + 5x - 25$

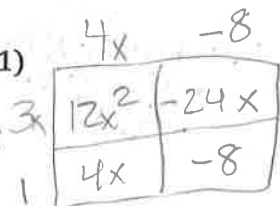


13. A

14. $12x^2 - 20x - 8$

d. $4(x - 2)(3x + 1)$

$4x - 8$
 $12x^2 - 20x - 8$



14. D

15. $2x^2 + 5x - 25$

e. $(8x - 9) - (7x - 9)$

$8x - 9 - 7x + 9$
 x

15. C

Given each function, evaluate for the value of x.

$f(x) = 3x^2 + 2x - 8$

$f(4) = 3(4)^2 + 2(4) - 8$

$f(4) = 3 \cdot 16 + 8 - 8$

$f(4) = 48$

$g(x) = -2x^2 - 6x + 1$

$g(-3) = -2(-3)^2 - 6(-3) + 1$

$g(-3) = -2(9) - (-18) + 1$

$-18 + 18 + 1$

$g(-3) = 1$

Determine whether each recursive function is linear, exponential, or quadratic.

$f(1) = 18$

$f(n) = f(n-1) + 12$ common difference

Linear

$f(1) = 18$

$f(n) = f(n-1) \cdot 12$ common ratio

Exponential

$f(1) = 18$

$f(n) = f(n-1) + 12n$

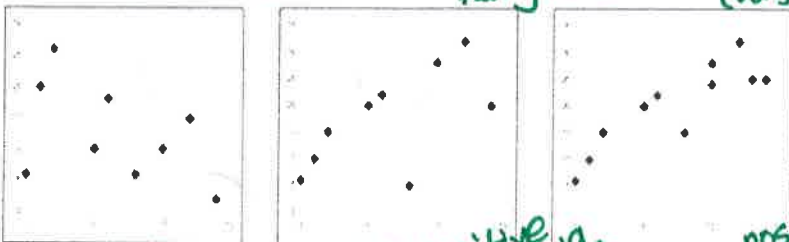
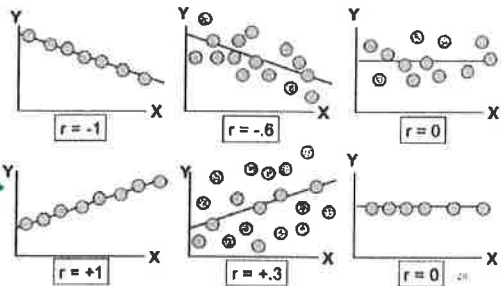
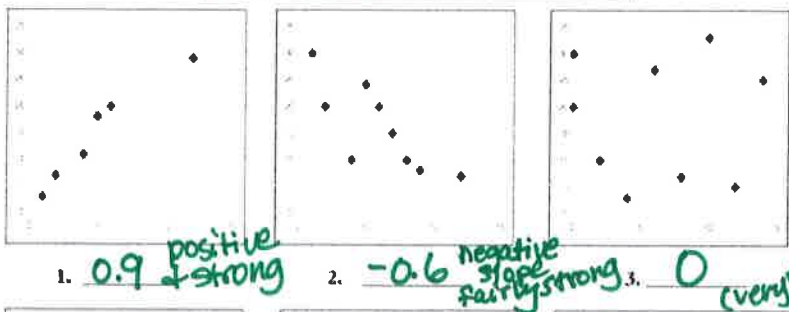
Quadratic

"linear" rate of change that includes "n"

Estimate the correlation coefficient for each scatter plot. Cross each answer out in the box below.

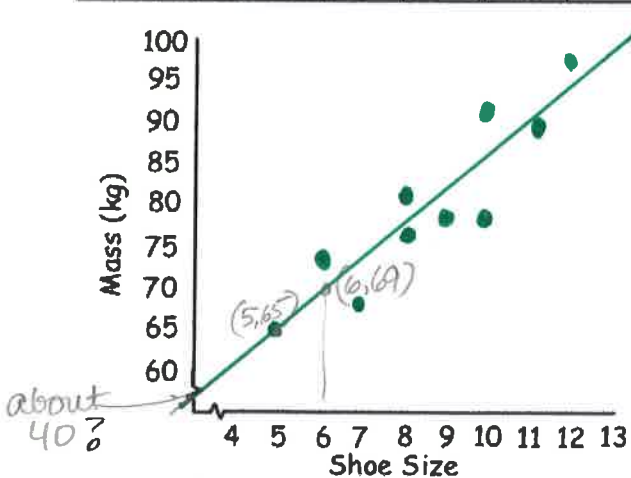
~~.9~~, ~~-.6~~, ~~0~~, ~~-.2~~, ~~.4~~, ~~.75~~

Scatter Plots of Data with Various Correlation Coefficients



(1.) The table below shows the shoe size and mass of 10 men.
 (a) Plot a scatter graph for this data and draw a line of best fit.

Size	5 ✓	12 ✓	7 ✓	10 ✓	10 ✓	9 ✓	8 ✓	11 ✓	6 ✓	8 ✓
Mass	65	97	68	92	78	78	76	88	74	80



$$\begin{matrix} (5, 65) \\ (6, 69) \end{matrix} \frac{69 - 65}{6 - 5} = \frac{4}{1} = m$$

$$y = 4x + 40$$

looks close to 40 as y-intercept on graph

What type of correlation is shown in the above scatter plot? **Positive.**

Draw a line of best fit. ✓

Write the equation for the line of best fit you have drawn. **$y = 4x + 40$**

Use linear regression in desmos to find a precise equation for a line of best fit. **$y = 4.08x + 44.46$**

Estimate the mass of a man with a shoe size of 9.5.

$$y = 4.08(9.5) + 44.46$$

$$y = 83.22 \text{ kg}$$