1) Solve the following equations. (remember that a negative times a negative is positive, and a negative times a positive is negative):

$$
x^{2}+7 x+12=0
$$

$$
x^{2}-7 x+12=0
$$

$$
x^{2}+x-12=0
$$

$$
x^{2}-x-12=0
$$

2) Fill in the table and plot the graph for $f(x)=x+1$ and $f(x)=x^{2}$

| $x$ | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $f(x)=x+1$ |  |  |  |  |  |  |  |  |  |  |  |




| $x$ | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $f(x)=x^{2}$ |  |  |  |  |  |  |  |  |  |  |  |

3) The area of the rectangle ABCD on the drawing is x . Show that the area of the $\triangle D X C$ is $1 / 2 x$.

4) Find the angle $x$.

5) Find the difference between the dark and light grey areas. (Hint: not sure what is the area of the overlap? Call it x.)

5 cm


