11 ADVANCE MATHEMATICS

LESSON 3.2

EXAMPLE - 6

Name in English

Use the graph of $f(x) = \ln x$ to describe the transformation that results in each function. Then sketch the graphs of the functions.

6A. $a(x) = \ln (x - 6)$

a) Translated 6 units to the left
b) Translated 6 units to the right
c) Translated 6 units up
d) Translated 6 units down

6B. $b(x) = 0.5 \ln x - 2$

a) Stretched vertically by a factor of 0.5 and translated 2 units down.
b) Stretched vertically by a factor of 0.5 and translated 2 units up.
c) Compressed vertically by a factor of 0.5 and translated 2 units up.
d) Compressed vertically by a factor of 0.5 and translated 2 units down.

6C. $c(x) = \ln (x + 4) + 3$

a) Translated 4 units left and 3 units up
b) Translated 3 units left and 4 units up
c) Translated 4 units right and 3 units up
d) Translated 4 units right and 3 down up

LIVEWORKSHEETS