Calculus: Newton

NAME: ....

CLASS: ....
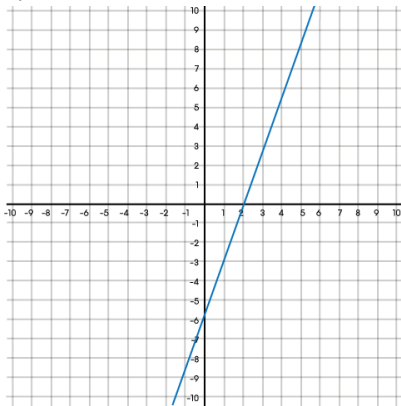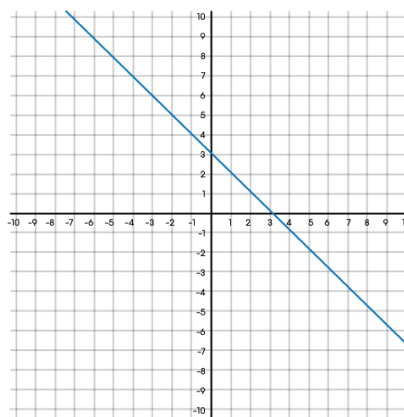
DATE: ....

Basic

1) Give the gradient of the following lines:

a)

b)
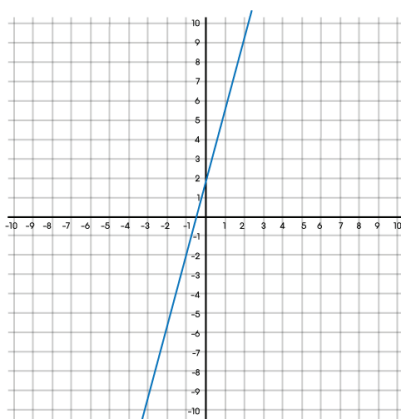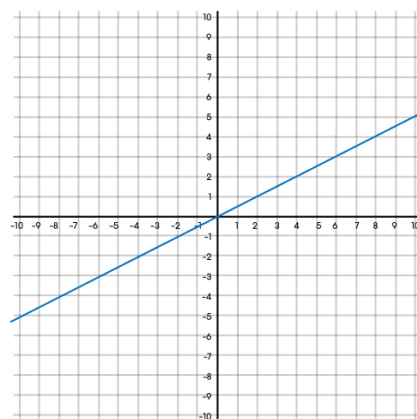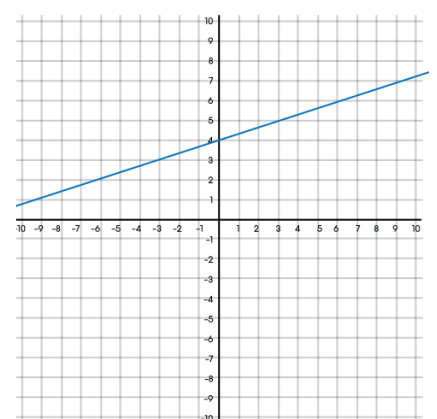

c)

d)

e)

f)
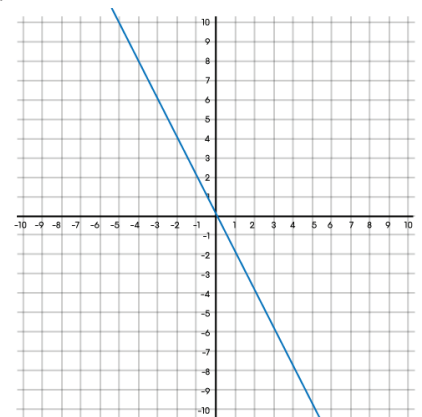
2) The graph below records how the speed of a car (in metres per second) varies as it sets off. Estimate the distance travelled after 60 seconds.

Calculus: Newton

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Core
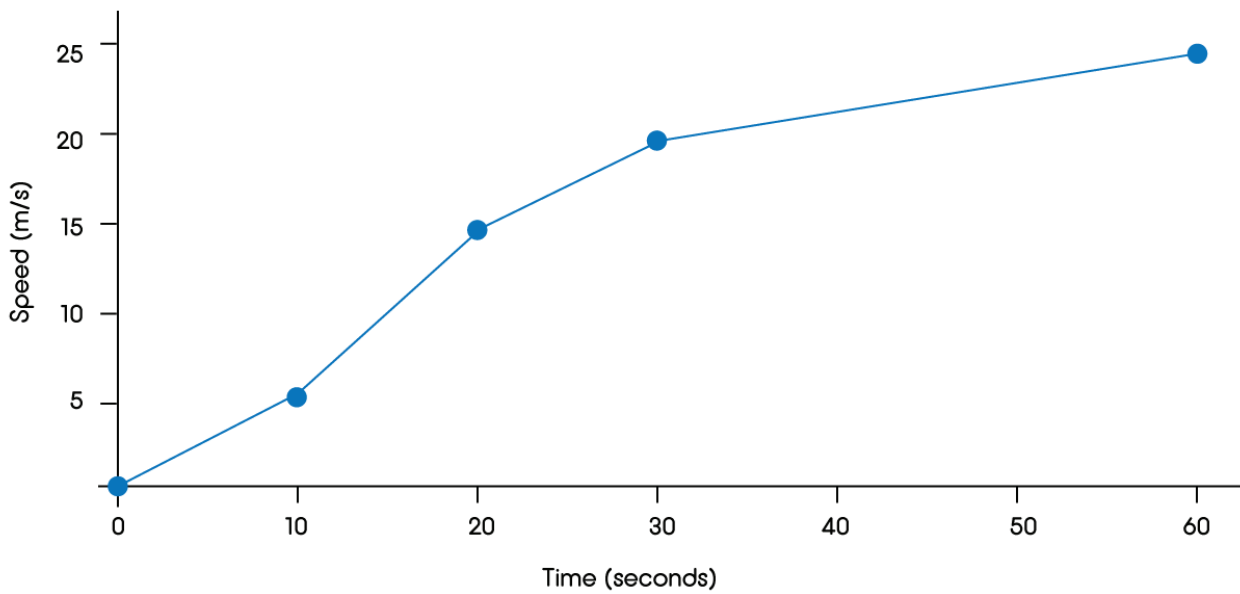
1) The graph below records how the speed of a car (in metres per second) varies as it sets off. Estimate the distance travelled after 60 seconds.
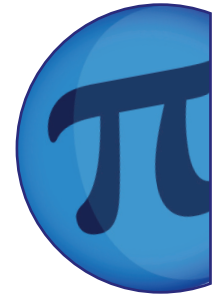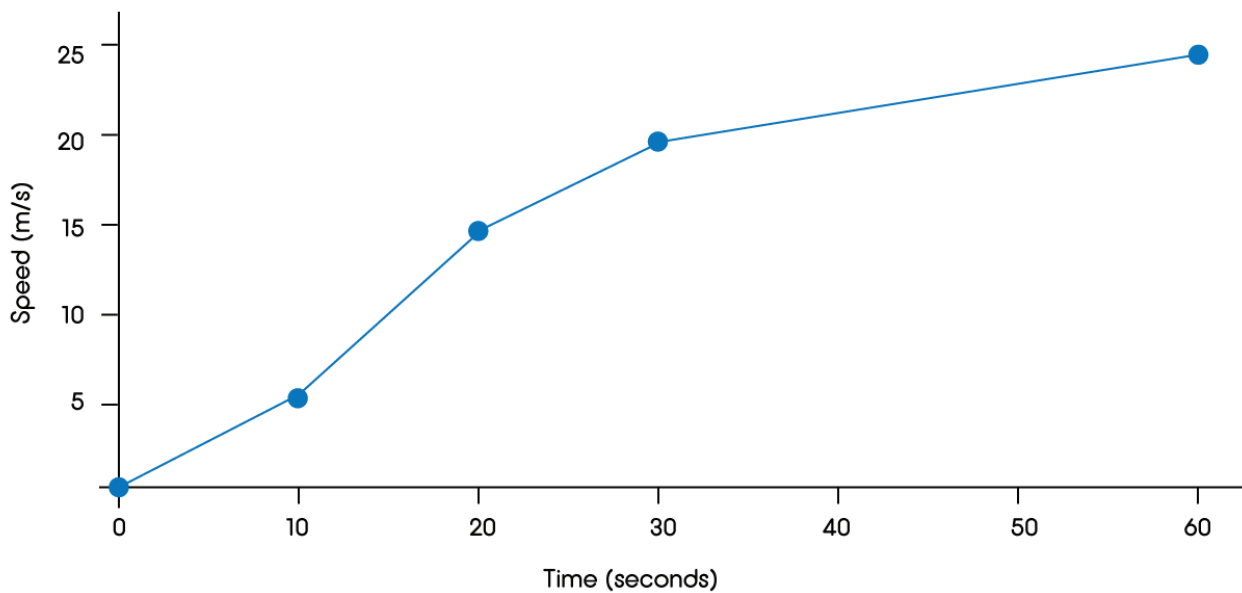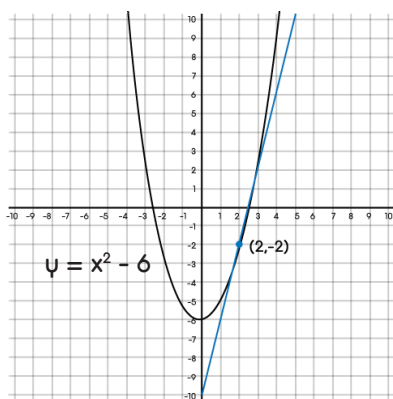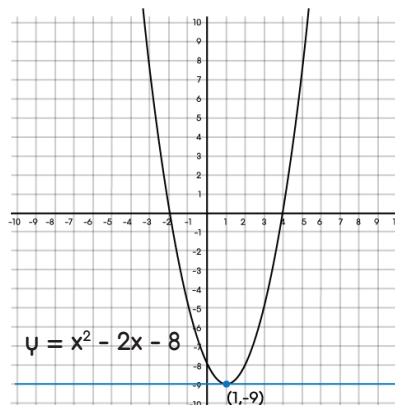

2) Find the gradient of the curve at the given points using the drawn tangents.
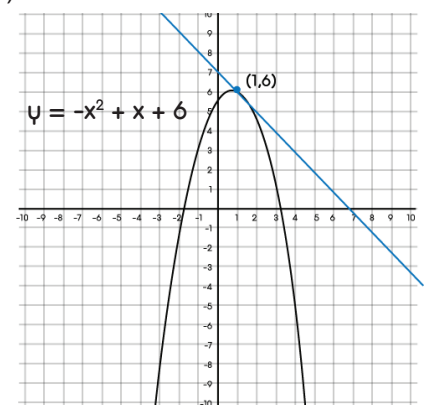
a)

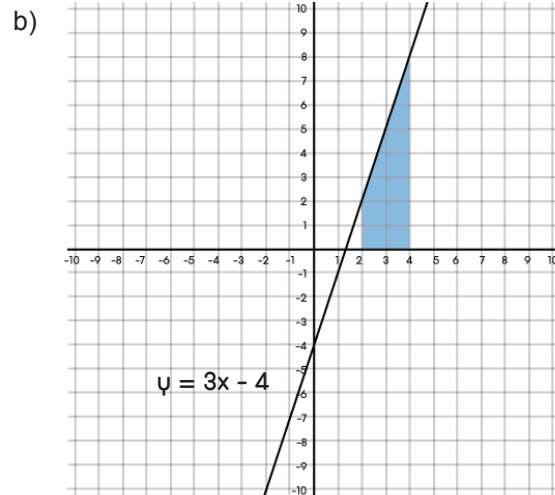
$y = x^2 - 6$ (2,-2)

b)

$y = x^2 - 2x - 8$ (1,-9)

c)

$y = -x^2 + x + 6$ (1,6)

Core

3) Calculate the shaded area in the diagrams below:

a)

$y = 2x$

b)

$y = 3x - 4$
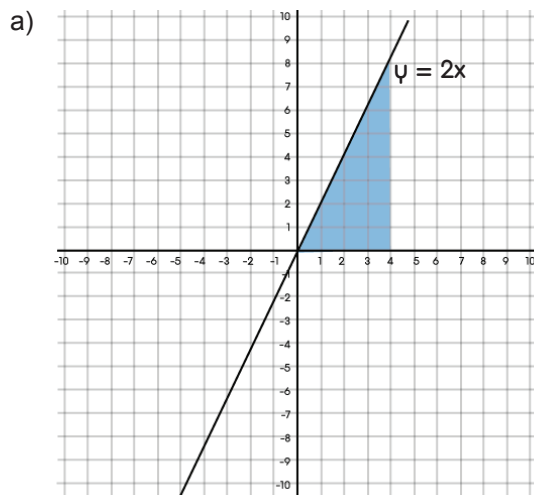
NAME: ....

CLASS: ....

DATE: ....
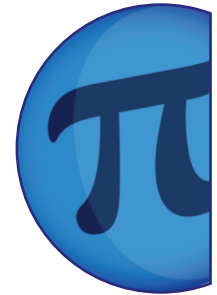
Advanced

1) Calculate the gradient of the following curves at the given points:
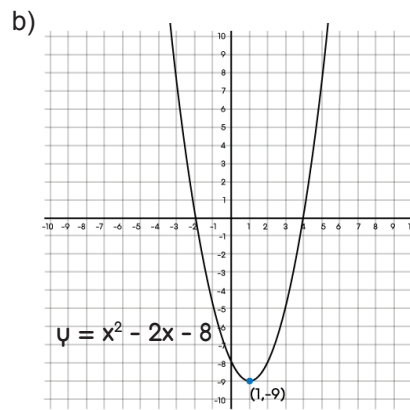
a)

$y = x^2 - 6$ (2,-2)

b)

$y = x^2 - 2x - 8$ (1,-9)

c)

$y = -x^2 + x + 6$ (1,6)
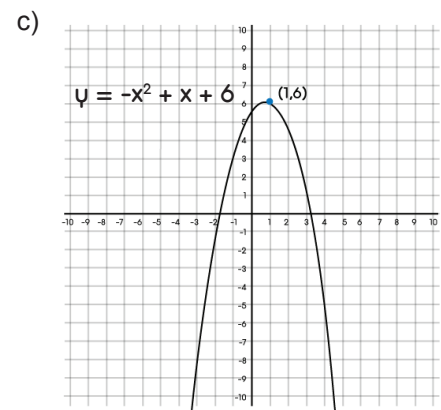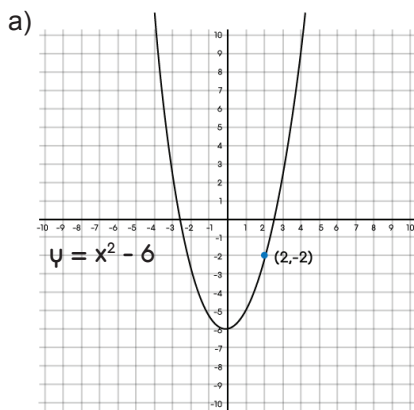
2) Calculate the shaded area in the diagrams below:

a)

$y = x^2 - 4x + 4$

b)

$y = x^2 - x - 6$
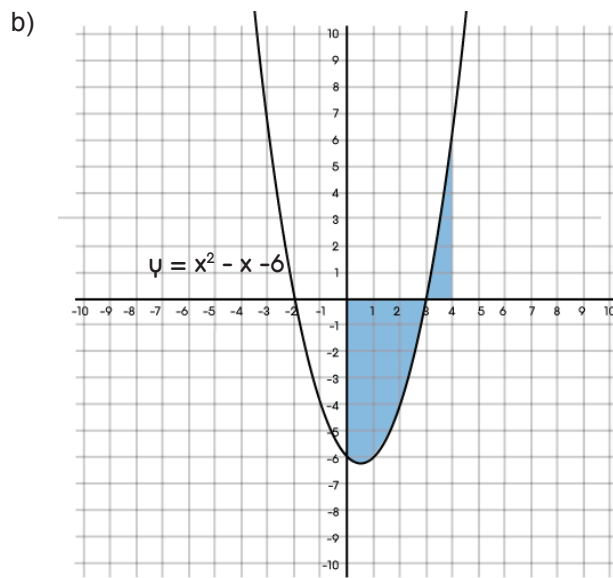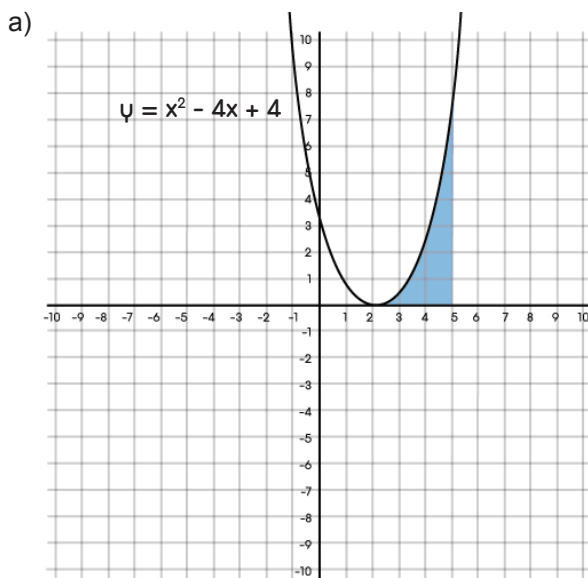
ANSWERS

Basic

1) a) 3   b) -1   c) -2   d) 4   e) $\dfrac{1}{2}$ f) $\dfrac{1}{3}$

2) 975m

Core

1) 975m

2) a) 4   b) 0   c) -1

3) a) 16 units²   b) 10 units²

Advanced

1) a) 4   b) 0   c) -1

2) a) 9 units²   b) 16 $\dfrac{1}{3}$ units²