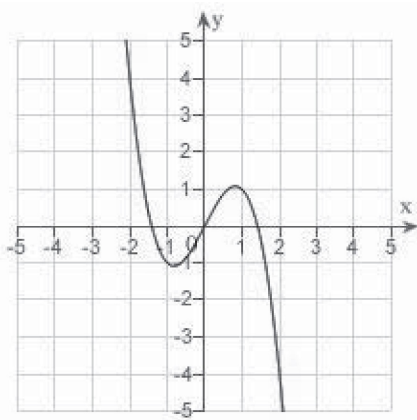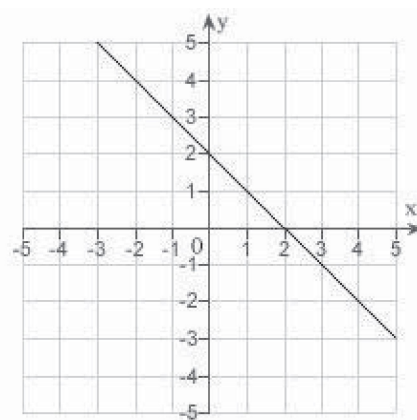## P.1 Graphs and Models

Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____   1.   Which of the following is the correct graph of $y = -\sqrt{2 - x^2}$?
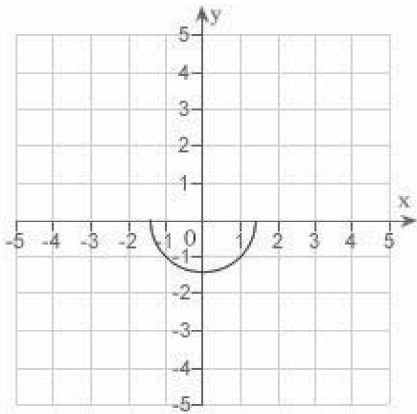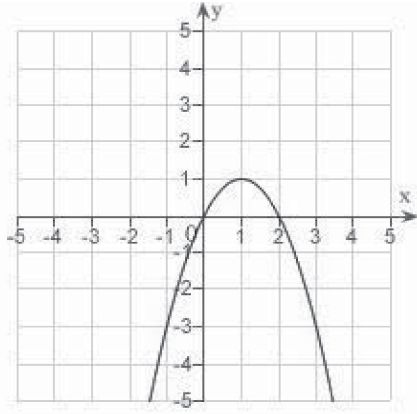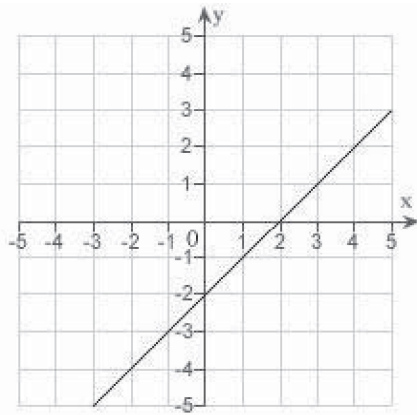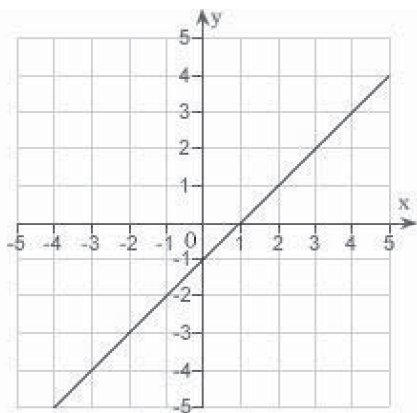
a.

d.

b.

e.

c.

_____   2.   Which of the following is the correct graph of $y = x - x^3$?
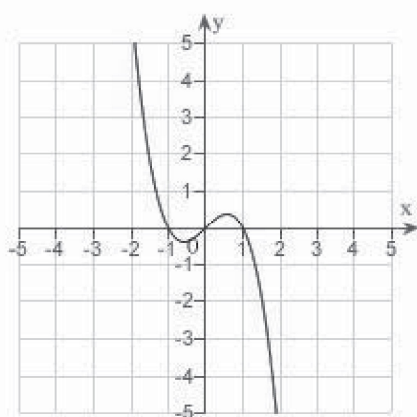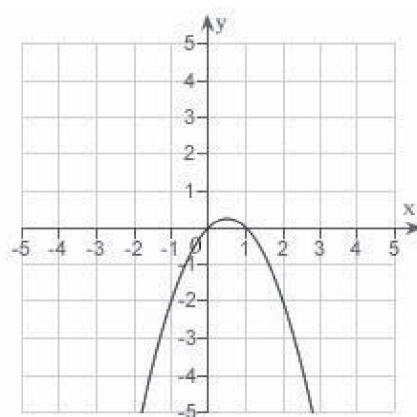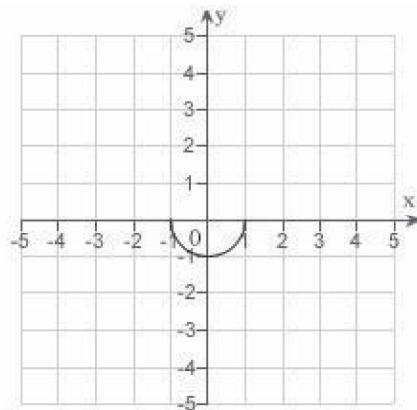
a.

d.
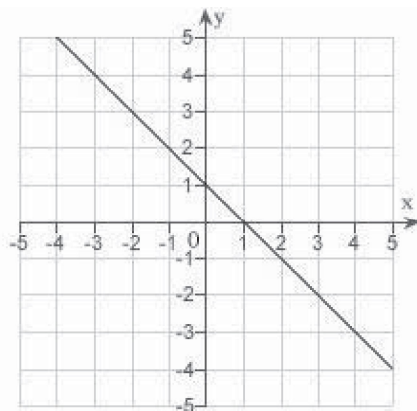
b.

e.

c.

_____   3.   Find all intercepts:

$$y = x^2 - x - 12$$

a. x-intercepts: (4,0), (−3,0); y-intercepts: (0, 4), (0, 3)
b. x-intercept: (12, 0); y-intercepts: (0, 4), (0, 3)
c. x-intercepts: (4, 0), (−3,0); y-intercept: (0, −12)
d. x-intercepts: (4, 0), (−3,0); y-intercepts: (0, −12), (0, 12)
e. x-intercept: (−3, 0); y-intercept: (0, −12)

_____   4.   Find all intercepts:

$$y = (x + 5)\sqrt{4 - x^2}$$

a. x-intercepts: (−5, 0), (−2, 0), (2, 0); y-intercepts: (0, 0), (0, 10)
b. x-intercepts: (−5, 0), (2, 0); y-intercept: (0, 10)
c. x-intercepts: (−5, 0), (2, 0); y-intercept: (0, −10)
d. x-intercepts: (−5, 0), (−2, 0), (2, 0); y-intercept: (0, 10)
e. x-intercepts: (−5, 0), (−2, 0), (2, 0); y-intercept: (0, −10)

_____   5.   Test for symmetry with respect to each axis and to the origin.

$$x^2 y^2 = 8$$

a.   symmetric with respect to the origin
b.   symmetric with respect to the x-axis
c.   symmetric with respect to the y-axis
d.   no symmetry
e.   A, B, and C

_____   6.   Test for symmetry with respect to each axis and to the origin.

$$y = \frac{x^2 + 2}{x}$$

a.   symmetric with respect to the origin
b.   symmetric with respect to the y-axis
c.   symmetric with respect to the x-axis
d.   both B and C
e.   no symmetry