Review and EQAO Practice for Chapter 9 - Optimization

2015

optimization

26 The table below lists the widths of four rectangles, each with an area of 72 cm^2.

	Width (cm)
Rectangle 1	6
Rectangle 2	8
Rectangle 3	10
Rectangle 4	18

Which rectangle has the smallest perimeter?

a Rectangle 1

b Rectangle 2

c Rectangle 3

d Rectangle 4

optimization

27 Salt is sold in packages in the shape of a rectangular-based prism that is not a cube. A new package in the shape of a cube is designed to contain the same volume.

Which of the following is true about the new package?

a It holds less salt.

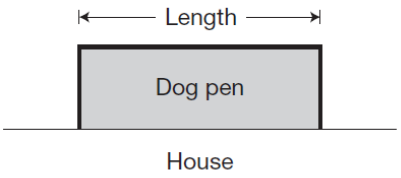
b It holds more salt.

c It requires less material.

d It requires more material.

2013

24 Marcus is building a rectangular dog pen along the side of his house as shown below.



Marcus has 20 m of fencing for the 3 sides of the dog pen.

What is the length of the dog pen with the maximum area?

a 4 m

b 5 m

c 10 m

d 12 m

Why is optimization useful? Identify 3 examples where optimization is used in mathematics.

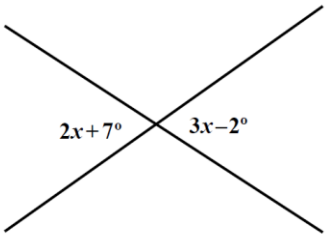
1.

2.

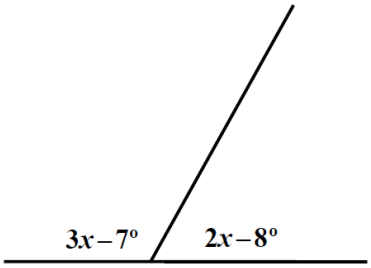
3.

Challenge Angle Questions

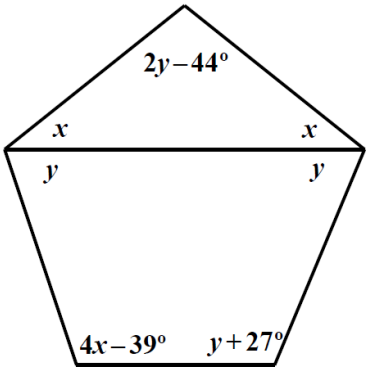
a)



b)



c)



Answers: **a) 9°** **b) 39°** **c) 41°**

Optimization Questions

1. Pop cans typically hold 355 ml of drink. If you worked for Coke, how would you re-design the pop can so that still holds 355 ml but will require the minimum amount of aluminum (minimum surface area) to produce?

2. The BEHR paint company is redesigning it's cans in order to optimize their volume. If each can is constructed from 2834 cm^2 of aluminum, what is the maximum amount of paint they can hold?

Optimization Review – pg. 516 #3, 4, 5, 7, 8, 10, 11, 13, 14, 16

Optimization Practice Test – pg. 518 #1-10