Mathematics Practice Test Answer Key

Qatar Senior School Certificate 2009

هيئة التقييم
EVALUATION INSTITUTE

Selected Response Answer Key

Item	Answer
1	A
2	B
3	C
4	A
5	D
6	B
7	C
8	A
9	B
10	D
11	C
12	C
13	B
14	C
15	D
16	C
17	B
18	A
19	A
20	D
21	D

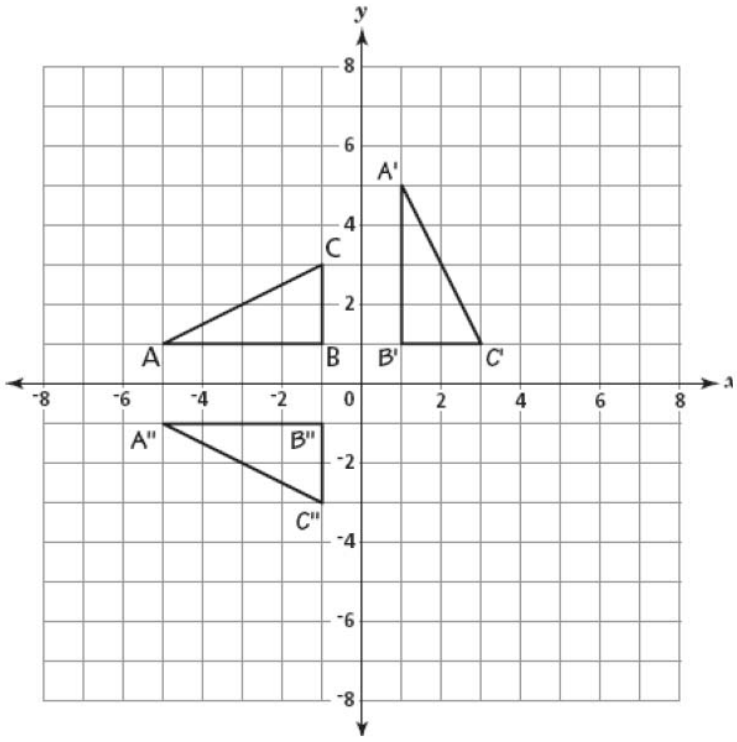
Answer to question 22:

$Q = 2{,}000 \bullet 1.04^{x}$

AND

$Q = 2{,}000 \bullet 1.04^{x}$
$Q = 2{,}000 \bullet 1.04^{5}$
$Q = 2{,}433$

Answer to question 23:



Answer to question 24:

$f(g(x)) = f(2x + 1)$

$= (2x + 1)^3 - 2$

$=(2x + 1)\ (2x + 1)\ (2x + 1) - 2$

$= (2x + 1)(4x^2 + 4x + 1) - 2$

$= (8x^3 + 12x^2 + 6x + 1) - 2$

$=8x^3 + 12x^2 + 6x - 1$

AND

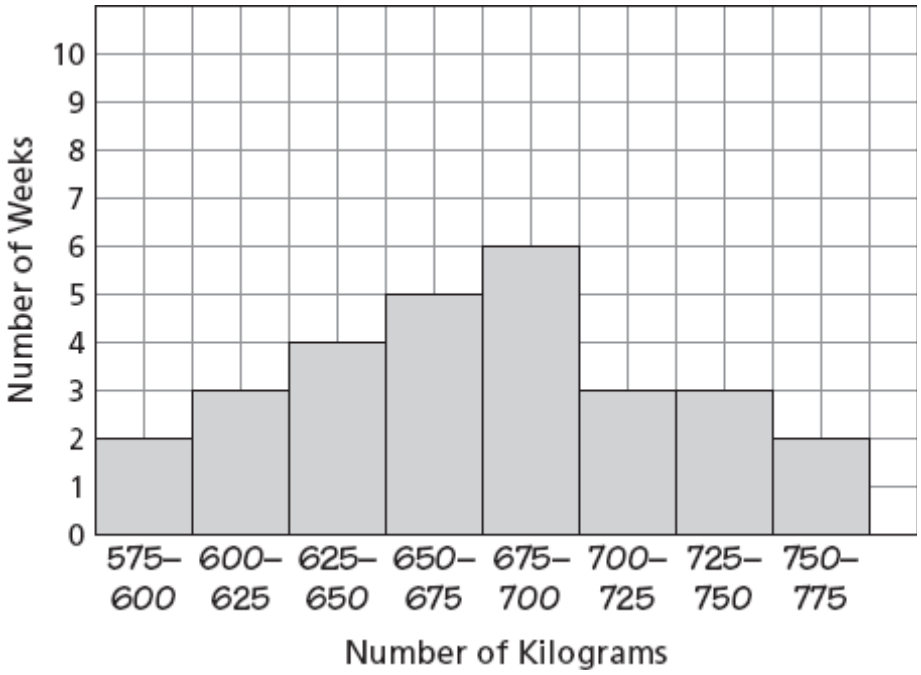
$g(f(x)) = g(x^3 - 2)$

$= 2(x^3 - 2) + 1$

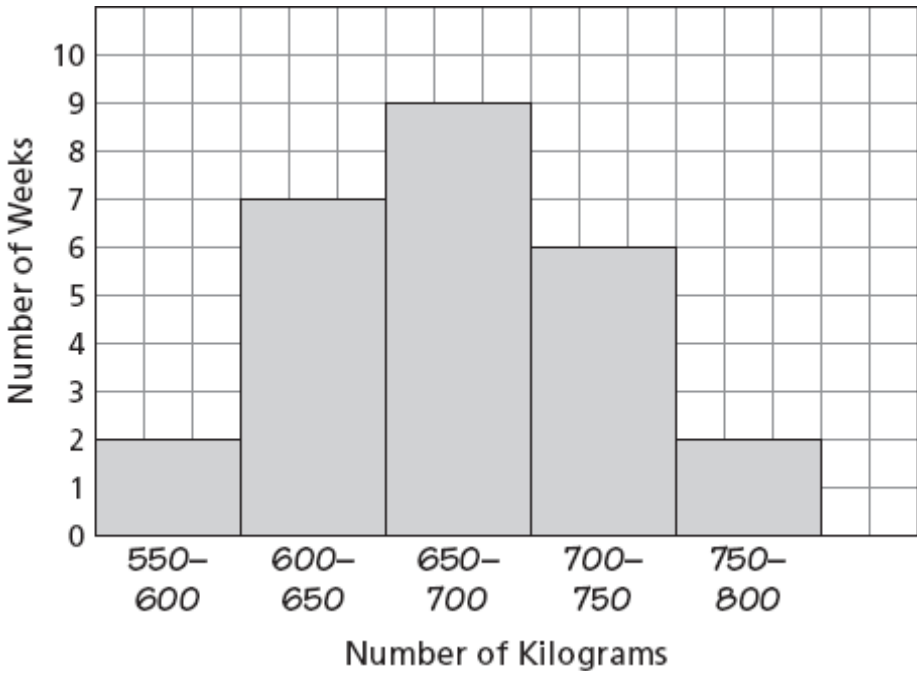
$= 2x^3 - 4 + 1$

$= 2x^3 - 3$

Answer to question 25:



OR



Answer to question 26:

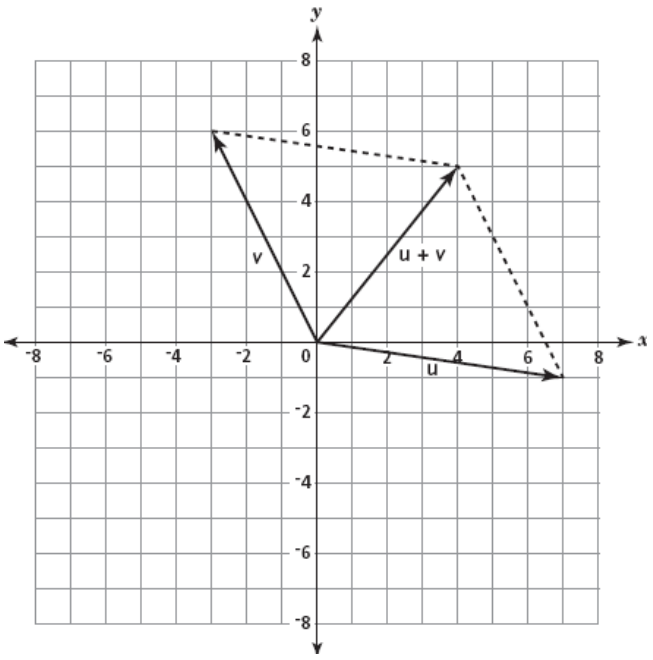
(0, -1)

AND

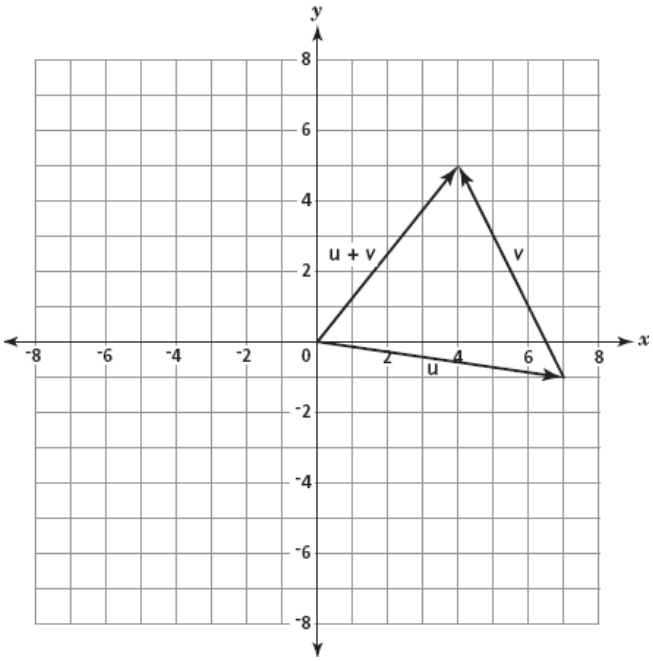
Any two of the following:

- $f(x)$ goes up and to the right while $h(x)$ goes up and to the left
- $h(x)$ has been stretched by a factor of 2 or $h(x)$ is twice as steep as $f(x)$
- $h(x)$ is shifted down from $f(x)$

Answer to question 27:



OR



Answer to question 28:

Probability of spinning a 1 = 0.25

Probability of spinning a 3 = 0.50

Probability of spinning a 1 or a 3 = 0.25 + 0.50 = 0.75

AND

Sum of 3 can occur by spinning 1 then 2 or 2 then 1.

Probability of spinning 1 then 2 = (0.25)(0.25) = 0.0625 or 1/16

Probability of spinning 2 then 1 = (0.25)(0.25) = 0.0625 or 1/16

Probability of spinning a sum of 3 = 0.0625 + 0.0625 = 0.125 or 1/8

Answer to question 29:

(32 + 28 + 31 + 30 + 33 + 30 + 29 + 34 + 28 + 31)/10 = 30.6

AND

$[(32 – 30.6)^2 + (28 – 30.6)^2 + \ldots]/10 = 3.64$

Square root of 3.64 = 1.9

OR

$[(32 – 30.6)^2 + (28 – 30.6)^2 + \ldots]/9 = 4.04$

Square root of 4.04 = 2.0

Answer to question 30:

$$\left(\frac{50\ m}{45\ sec}\right)\left(\frac{1\ km}{1000\ m}\right)\left(\frac{60\ sec}{1\ min}\right)\left(\frac{60\ min}{1\ hr}\right) = 4.0\ km/hr$$

AND

$$(1500\ m)\left(\frac{0.75\ min}{50\ m}\right) = 22.5\ min$$