

THIS IS THE ANSWERS FOR PAPER NUMBER 26

THIS IS AN EXAMPLE OF PERSONALIZED TESTS.

If needed, please use the following constants.

Please be advised that in this paper there are questions from 26.1 through 26.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

QUESTION 26.1 (6)

Please answer **ONLY 5** of the following 6 questions (Questions 26.1.1 through 26.1.6).

Question 26.1.1 (6, 11, 26)

Answer:

The possibility of non-smoking and under 30 years old customer is $(1 - a)(1 - b) = .156$.

Question 26.1.2 (6, 6, 21)

Answer:

We will use the Newton's Second Law:

$$\mathbf{f} = m\mathbf{a}.$$

Since $\mathbf{f} = (70.0, 2.0, -2000.0)N$ and $m = 50.0kg$, bring them into the above equation, then we get

$$\begin{aligned}
 \mathbf{a} &= \frac{\mathbf{f}}{m} \\
 &= \frac{(70.0, 2.0, -2000.0)N}{50.0kg} \\
 &= (1.4000, 4.0000 \times 10^{-2}, -40.000)ms^{-2} \\
 &= (18144., 518.40, -518400.)km/h^2.
 \end{aligned}$$

Question 26.1.3 (6, 9, 24)

Answer:

By using Newton's Law of Universal Gravitation:

$$F = G \frac{(\text{Sun's mass}) \times (\text{Planet's mass})}{(\text{distance})^2},$$

where $G = 6.67 \times 10^{-11} Nm^2(kg)^{-2}$, the forces can be easily calculated as

The Planet	Mass (kg)	Distanace from Sun (m)	The Force (N)
Mercury	$6.00000000 \times 10^{24}$	$6.000000000 \times 10^{24}$	3.33×10^{-11}
Venus	2.00×10^{24}	4.00×10^{24}	2.50×10^{-11}
Earth	8.00×10^{24}	4.00×10^{24}	1.00×10^{-10}
Mars	7.00×10^{24}	9.00×10^{24}	1.73×10^{-11}
Jupiter	4.00×10^{24}	7.00×10^{24}	$1.63 \times 10^{-11}3$
Saturn	5.00×10^{24}	8.00×10^{24}	1.56×10^{-11}
Uranus	3.00×10^{24}	8.00×10^{24}	9.38×10^{-12}
Neptune	9.00×10^{24}	4.00×10^{24}	1.13×10^{-10}

Question 26.1.4 (6, 13, 28)

Answer:

5;

6;

The operation is SUBTRACTION and the result is -1.0000 .

Question 26.1.5 (6, 12, 27)

Answer:

Customer	Possibility
smoking and equal-or-above 30 years old	.102
smoking and under 30 years old	.238
non-smoking and equal-or-above 30 years old	.198
non-smoking and under 30 years old	.462

And the total summation of all possibilities is 1.000.

Question 26.1.6 (6, 10, 25)

Auto-answer:

- C. A truck
- D. An airplane

QUESTION 26.2 (1, 1, 1)

Auto-answer:

- C. The acceleration is $(1.80, .18, -160.00)ms^{-2}$.

Answer:

The correct answer from the choices is

- C. The acceleration is $(1.80, .18, -160.00)ms^{-2}$.

QUESTION 26.3 (2, 2, 2)

Auto-answer:

- A. The acceleration is $(1.3793ms^{-2}, 1117.2km/h^2, -155.17ms^{-2})$.

QUESTION 26.4 (3, 3, 3)

Auto-answer:

- F. None of above.

QUESTION 26.5 (5, 5, 5)

Answer:

The correct answer	F	1. 78 is an odd number.
The correct answer	T	2. Toronto is in Ontario province.

The correct answer	F	3. $\mathbf{F} = m\mathbf{a}$ is a mathematical form of Newton's Law of Universal Gravitation.
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QUESTION 26.6 (4, 4, 4)**Auto-answer:**

Column Left	Column Right	Answers
A. er	ASDF(:)	D.
B. Er	b	C.
C. B	eR	A. , B.
D. asdf(:)	a	E.
E. A	ER	A. , B.

QUESTION 26.7 (7, 14, 50)**Auto-answer:****A.** The acceleration is $(1.55, .12, -120.69)ms^{-2}$.**QUESTION 26.8 (8, 15, 60)****Answer:**

$$\begin{pmatrix} 4 & 7 & 5 & 6 \\ 6 & 6 & 7 & 5 \\ 4 & 4 & 4 & 4 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 44 \\ 48 \\ 32 \end{pmatrix}$$

$$\begin{pmatrix} \varepsilon & \rho \\ \sigma & \beta \\ \Lambda & \Delta \\ \Omega & \Xi \end{pmatrix} \begin{pmatrix} \gamma \\ \gamma \end{pmatrix} = \begin{pmatrix} \varepsilon \times \gamma + \rho \times \gamma \\ \sigma \times \gamma + \beta \times \gamma \\ \Lambda \times \gamma + \Delta \times \gamma \\ \Omega \times \gamma + \Xi \times \gamma \end{pmatrix}$$

QUESTION 26.9 (9, 16, 70)**Answer:**

-7, 11

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 26.1

through 26.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 27

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Please be advised that in this paper there are questions from 27.1 through 27.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

QUESTION 27.1 (6)

Please answer **ONLY 5** of the following 6 questions (Questions 27.1.1 through 27.1.6).

Question 27.1.1 (6, 8, 23)

Auto-answer:

E. none of these.

Question 27.1.2 (6, 10, 25)

Auto-answer:

C. A truck

D. An airplane

Question 27.1.3 (6, 6, 21)

Answer:

We will use the Newton's Second Law:

$$\mathbf{f} = m\mathbf{a}.$$

Since $\mathbf{f} = (50.0, 5.0, -5000.0)N$ and $m = 50.0kg$, bring them into the above equation, then we get

$$\begin{aligned}
 \mathbf{a} &= \frac{\mathbf{f}}{m} \\
 &= \frac{(50.0, 5.0, -5000.0)N}{50.0kg} \\
 &= (1.0000, .10000, -100.00)ms^{-2} \\
 &= (12960., 1296.0, -1.2960 \times 10^6)km/h^2.
 \end{aligned}$$

Question 27.1.4 (6, 11, 26)**Answer:**

The possibility of non-smoking and under 30 years old customer is $(1 - a)(1 - b) = .167$.

Question 27.1.5 (6, 13, 28)**Answer:**

5;

4;

The operation is MULTIPLICATION and the result is 20.000.

Question 27.1.6 (6, 7, 22)**Auto-answer:**

I. The acceleration (vector) is $(7476.9, 747.69, -747692.)km/h^2$.

QUESTION 27.2 (4, 4, 4)**Auto-answer:**

Column Left	Column Right	Answers
A. er	b	C.
B. A= 6/ 2	ER	A.
C. B	YJH	E.
D. asdf(:)	a= 3	B.
E. yjh	ASDF(:)	D.

QUESTION 27.3 (3, 3, 3)

Auto-answer:

A. Canada has 10 provinces and 3 territories.

QUESTION 27.4 (2, 2, 2)

Auto-answer:

E. The acceleration is $(1.3793ms^{-2}, 2011.0km/h^2, -155.17ms^{-2})$.

QUESTION 27.5 (1, 1, 1)

Auto-answer:

D. The acceleration is $(.769, 3.8 \times 10^{-2}, -38.462)ms^{-2}$.

Answer:

The correct answer from the choices is

D. The acceleration is $(.769, 3.8 \times 10^{-2}, -38.462)ms^{-2}$.

QUESTION 27.6 (5, 5, 5)

Answer:

The correct answer	F	1. 47 is an even number.
The correct answer	F	2. Montreal is in Ontario province.
The correct answer	T	3. $\mathbf{F} = m\mathbf{a}$ is a mathematical form of the Newton's Second Law.

QUESTION 27.7 (8, 15, 60)

Answer:

$$\begin{pmatrix} 5 & 7 & 7 & 6 \\ 5 & 4 & 6 & 5 \\ 6 & 6 & 5 & 5 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 50 \\ 40 \\ 44 \end{pmatrix}$$

$$\begin{pmatrix} \zeta & \Theta \\ \Xi & \Theta \\ \eta & \gamma \\ \rho & \delta \end{pmatrix} \begin{pmatrix} \beta \\ \beta \end{pmatrix} = \begin{pmatrix} \zeta \times \beta + \Theta \times \beta \\ \Xi \times \beta + \Theta \times \beta \\ \eta \times \beta + \gamma \times \beta \\ \rho \times \beta + \delta \times \beta \end{pmatrix}$$

QUESTION 27.8 (7, 14, 50)

Auto-answer:

B. The acceleration is $(1.38, .14, -137.93)ms^{-2}$.

QUESTION 27.9 (9, 16, 70)

Answer:

25, -13

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 27.1 through 27.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 28

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QUESTION 28.1 (6)

Please answer **ONLY 5** of the following 6 questions (Questions 28.1.1 through 28.1.6).

Question 28.1.1 (6, 11, 26)

Answer:

The possibility of non-smoking and equal or above 30 years old customer is $(1 - a)(1 - b) = .160$.

Question 28.1.2 (6, 7, 22)

Auto-answer:

C. The acceleration (vector) is $(17876., 893.79, -1.3407 \times 10^6)km/h^2$.

Question 28.1.3 (6, 10, 25)

Auto-answer:

C. An airplane

D. A truck

Question 28.1.4 (6, 6, 21)

Answer:

We will use the Newton's Second Law:

$$\mathbf{f} = m\mathbf{a}.$$

Since $\mathbf{f} = (70.0, 4.0, -9000.0)N$ and $m = 56.0kg$, bring them into the above equation, then we get

$$\begin{aligned}\mathbf{a} &= \frac{\mathbf{f}}{m} \\ &= \frac{(70.0, 4.0, -9000.0)N}{56.0kg} \\ &= (1.2500, 7.1429 \times 10^{-2}, -160.71)ms^{-2} \\ &= (16200., 925.71, -2.0829 \times 10^6)km/h^2.\end{aligned}$$

Question 28.1.5 (6, 12, 27)

Answer:

Customer	Possibility
smoking and equal-or-above 30 years old	8.40×10^{-2}
smoking and under 30 years old	3.60×10^{-2}
non-smoking and equal-or-above 30 years old	.616
non-smoking and under 30 years old	.264

And the total summation of all possibilities is 1.000.

Question 28.1.6 (6, 9, 24)

Answer:

By using Newton's Law of Universal Gravitation:

$$F = G \frac{(Sun's \text{ mass}) \times (Planet's \text{ mass})}{(distance)^2},$$

where $G = 6.67 \times 10^{-11}Nm^2(kg)^{-2}$, the forces can be easily calculated as

The Planet	Mass (kg)	Distanace from Sun (m)	The Force (N)
Mercury	$5.000000000 \times 10^{24}$	$2.000000000 \times 10^{24}$	7.50×10^{-10}
Venus	6.00×10^{24}	4.00×10^{24}	2.25×10^{-10}
Earth	7.00×10^{24}	5.00×10^{24}	1.68×10^{-10}
Mars	7.00×10^{24}	7.00×10^{24}	8.58×10^{-11}
Jupiter	5.00×10^{24}	3.00×10^{24}	3.33×10^{-10}
Saturn	7.00×10^{24}	6.00×10^{24}	1.17×10^{-10}
Uranus	9.00×10^{24}	6.00×10^{24}	1.50×10^{-10}
Neptune	5.00×10^{24}	7.00×10^{24}	6.13×10^{-11}

QUESTION 28.2 (5, 5, 5)**Answer:**

The correct answer	T	1. 80 is an even number.
The correct answer	T	2. Toronto is in Ontario province.
The correct answer	F	3. $ \mathbf{F} = Gm_1m_2r^{-2}$ is a mathmatical form of the Newton's Second Law.

QUESTION 28.3 (3, 3, 3)**Auto-answer:****A.** Canada has 10 provinces and 3 territories.**QUESTION 28.4 (4, 4, 4)****Auto-answer:**

Column Left	Column Right	Answers
A. asdf(:)	b	B.
B. B	a	D.
C. yjh	YJH	C.
D. A	eR	E.
E. er	ASDF(:)	A.

QUESTION 28.5 (1, 1, 1)**Auto-answer:**

G. The acceleration is $(1.80, 8.0 \times 10^{-2}, -60.000)ms^{-2}$.

Answer:

The correct answer from the choices is

G. The acceleration is $(1.80, 8.0 \times 10^{-2}, -60.000)ms^{-2}$.

QUESTION 28.6 (2, 2, 2)

Auto-answer:

E. The acceleration is $(1.6667ms^{-2}, 1680.0km/h^2, -148.15ms^{-2})$.

QUESTION 28.7 (8, 15, 60)

Answer:

$$\begin{pmatrix} 6 & 5 & 6 & 4 \\ 4 & 5 & 4 & 6 \\ 5 & 6 & 5 & 4 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 42 \\ 38 \\ 40 \end{pmatrix}$$

$$\begin{pmatrix} \beta & \Gamma \\ \epsilon & \beta \\ \eta & \beta \\ \Xi & \epsilon \end{pmatrix} \begin{pmatrix} \beta \\ \gamma \end{pmatrix} = \begin{pmatrix} \beta \times \beta + \Gamma \times \gamma \\ \epsilon \times \beta + \beta \times \gamma \\ \eta \times \beta + \beta \times \gamma \\ \Xi \times \beta + \epsilon \times \gamma \end{pmatrix}$$

QUESTION 28.8 (7, 14, 50)

Auto-answer:

B. The acceleration is $(1.60, .10, -180.00)ms^{-2}$.

QUESTION 28.9 (9, 16, 70)

Answer:

17, -31

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 28.1 through 28.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

Answers NOT for examinees !!! April 10, 2021

28005

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 29

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QUESTION 29.1 (6)

Please answer **ONLY 5** of the following 6 questions (Questions 29.1.1 through 29.1.6).

Question 29.1.1 (6, 8, 23)

Auto-answer:

C. The acceleration is $(.40000ms^{-2}, .10000ms^{-2}, -2.3328 \times 10^6 km/h^2)$.

Question 29.1.2 (6, 11, 26)

Answer:

The possibility of non-smoking and under 30 years old customer is $(1 - a)(1 - b) = .204$.

Question 29.1.3 (6, 9, 24)

Answer:

By using Newton's Law of Universal Gravitation:

$$F = G \frac{(Sun's \ mass) \times (Planet's \ mass)}{(distance)^2},$$

where $G = 6.67 \times 10^{-11} Nm^2(kg)^{-2}$, the forces can be easily calculated as

The Planet	Mass (kg)	Distanace from Sun (m)	The Force (N)
Mercury	$3.00000000 \times 10^{24}$	$8.000000000 \times 10^{24}$	2.50×10^{-11}
Venus	6.00×10^{24}	9.00×10^{24}	3.95×10^{-11}
Earth	7.00×10^{24}	4.00×10^{24}	2.33×10^{-10}
Mars	6.00×10^{24}	2.00×10^{24}	8.00×10^{-10}
Jupiter	9.00×10^{24}	3.00×10^{24}	$5.34 \times 10^{-10}3$
Saturn	4.00×10^{24}	8.00×10^{24}	3.33×10^{-11}
Uranus	4.00×10^{24}	6.00×10^{24}	5.93×10^{-11}
Neptune	9.00×10^{24}	3.00×10^{24}	5.34×10^{-10}

Question 29.1.4 (6, 13, 28)**Answer:**

7;

8;

The operation is ADDITION and the result is 15.000.

Question 29.1.5 (6, 12, 27)**Answer:**

Customer	Possibility
smoking and equal-or-above 30 years old	.490
smoking and under 30 years old	.300
non-smoking and equal-or-above 30 years old	.130
non-smoking and under 30 years old	7.98×10^{-2}

And the total summation of all possibilities is 1.000.

Question 29.1.6 (6, 7, 22)**Auto-answer:****C.** The accelaration (vector) is $(7476.9, 747.69, -498462.)km/h^2$.**QUESTION 29.2 (2, 2, 2)****Auto-answer:****E.** The accelaration is $(.55556ms^{-2}, 720.00km/h^2, -111.11ms^{-2})$.**QUESTION 29.3 (3, 3, 3)****Auto-answer:**

E. Canada has 10 provinces and 3 territories.

QUESTION 29.4 (5, 5, 5)

Answer:

The correct answer	<i>T</i>	1. 30 is an even number.
The correct answer	<i>F</i>	2. Montreal is in Ontario province.
The correct answer	<i>T</i>	3. $\mathbf{F} = m\mathbf{a}$ is a mathematical form of the Newton's Second Law.

QUESTION 29.5 (1, 1, 1)

Auto-answer:

E. The acceleration is $(.800, .14, -100.00)ms^{-2}$.

Answer:

The correct answer from the choices is

E. The acceleration is $(.800, .14, -100.00)ms^{-2}$.

QUESTION 29.6 (4, 4, 4)

Auto-answer:

Column Left	Column Right	Answers
A. Er	YJH	E.
B. C	eR	A. , C.
C. er	b	D.
D. B	ER	A. , C.
E. yjh	c	B.

QUESTION 29.7 (7, 14, 50)

Auto-answer:

C. The acceleration is $(1.54, .19, -57.692)ms^{-2}$.

QUESTION 29.8 (8, 15, 60)

Answer:

$$\begin{pmatrix} 5 & 6 & 5 & 5 \\ 5 & 5 & 7 & 4 \\ 4 & 6 & 6 & 6 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 42 \\ 42 \\ 44 \end{pmatrix}$$

$$\begin{pmatrix} \Gamma & \Gamma \\ \sigma & \Xi \\ \Lambda & \delta \\ \delta & \rho \end{pmatrix} \begin{pmatrix} \beta \\ \beta \end{pmatrix} = \begin{pmatrix} \Gamma \times \beta + \Gamma \times \beta \\ \sigma \times \beta + \Xi \times \beta \\ \Lambda \times \beta + \delta \times \beta \\ \delta \times \beta + \rho \times \beta \end{pmatrix}$$

QUESTION 29.9 (9, 16, 70)

Answer:

21, -7

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 29.1 through 29.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 30

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QUESTION 30.1 (6)

Please answer **ONLY 5** of the following **6** questions (Questions 30.1.1 through 30.1.6).

Question 30.1.1 (6, 11, 26)

Answer:

The possibility of non-smoking and under 30 years old customer is $(1 - a)(1 - b) = .544$.

Question 30.1.2 (6, 6, 21)

Answer:

We will use the Newton's Second Law:

$$\mathbf{f} = m\mathbf{a}.$$

Since $\mathbf{f} = (90.0, 4.0, -8000.0)N$ and $m = 56.0kg$, bring them into the above equation, then we get

$$\begin{aligned}
 \mathbf{a} &= \frac{\mathbf{f}}{m} \\
 &= \frac{(90.0, 4.0, -8000.0)N}{56.0kg} \\
 &= (1.6071, 7.1429 \times 10^{-2}, -142.86)ms^{-2} \\
 &= (20829., 925.71, -1.8514 \times 10^6)km/h^2.
 \end{aligned}$$

Question 30.1.3 (6, 12, 27)**Answer:**

Customer	Possibility
smoking and equal-or-above 30 years old	.135
smoking and under 30 years old	.385
non-smoking and equal-or-above 30 years old	.125
non-smoking and under 30 years old	.355

And the total summation of all possibilities is 1.000.

Question 30.1.4 (6, 8, 23)**Auto-answer:****B.** The acceleration is $(.92593ms^{-2}, .12963ms^{-2}, -1.2000 \times 10^6km/h^2)$.**Question 30.1.5 (6, 10, 25)****Auto-answer:****C.** A truck**D.** An airplane**Question 30.1.6 (6, 13, 28)****Answer:**

5;

2;

The operation is ADDITION and the result is 7.0000.

QUESTION 30.2 (4, 4, 4)**Auto-answer:**

Column Left	Column Right	Answers
A. C	YJH	D.
B. er	ER	B. , C.
C. Er	c	A.
D. yjh	a= 3	E.
E. A= 6/ 2	eR	B. , C.

QUESTION 30.3 (3, 3, 3)**Auto-answer:****B.** Canada has 10 provinces and 3 territories.**QUESTION 30.4 (1, 1, 1)****Auto-answer:****E.** The acceleration is $(.536, .14, -125.00)ms^{-2}$.**Answer:**

The correct answer from the choices is

E. The acceleration is $(.536, .14, -125.00)ms^{-2}$.**QUESTION 30.5 (5, 5, 5)****Answer:**

The correct answer	T	1. 28 is an even number.
The correct answer	T	2. Montreal is in Quebec province.
The correct answer	T	3. $\mathbf{F} = m\mathbf{a}$ is a mathematical form of the Newton's Second Law.

QUESTION 30.6 (2, 2, 2)**Auto-answer:****B.** The acceleration is $(1.4815ms^{-2}, 1200.0km/h^2, -166.67ms^{-2})$.**QUESTION 30.7 (8, 15, 60)****Answer:**

$$\begin{pmatrix} 7 & 4 & 5 & 7 \\ 4 & 5 & 6 & 4 \\ 7 & 5 & 5 & 7 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 46 \\ 38 \\ 48 \end{pmatrix}$$

$$\begin{pmatrix} \rho & \beta \\ \zeta & \Theta \\ \Lambda & \Psi \\ \Gamma & \Gamma \end{pmatrix} \begin{pmatrix} \beta \\ \beta \end{pmatrix} = \begin{pmatrix} \rho \times \beta + \beta \times \beta \\ \zeta \times \beta + \Theta \times \beta \\ \Lambda \times \beta + \Psi \times \beta \\ \Gamma \times \beta + \Gamma \times \beta \end{pmatrix}$$

QUESTION 30.8 (7, 14, 50)

Auto-answer:

C. The acceleration is $(1.67, 3.7 \times 10^{-2}, -111.11)ms^{-2}$.

QUESTION 30.9 (9, 16, 70)

Answer:

5, -7

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 30.1 through 30.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 31

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Please be advised that in this paper there are questions from 31.1 through 31.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

QUESTION 31.1 (6)

Please answer **ONLY 5** of the following 6 questions (Questions 31.1.1 through 31.1.6).

Question 31.1.1 (6, 9, 24)

Answer:

By using Newton's Law of Universal Gravitation:

$$F = G \frac{(\text{Sun's mass}) \times (\text{Planet's mass})}{(\text{distance})^2},$$

where $G = 6.67 \times 10^{-11} Nm^2(kg)^{-2}$, the forces can be easily calculated as

The Planet	Mass (kg)	Distanace from Sun (m)	The Force (N)
Mercury	$7.00000000 \times 10^{24}$	$5.000000000 \times 10^{24}$	9.34×10^{-11}
Venus	2.00×10^{24}	6.00×10^{24}	1.85×10^{-11}
Earth	9.00×10^{24}	6.00×10^{24}	8.34×10^{-11}
Mars	2.00×10^{24}	5.00×10^{24}	2.67×10^{-11}
Jupiter	5.00×10^{24}	5.00×10^{24}	$6.67 \times 10^{-11} 3$
Saturn	4.00×10^{24}	2.00×10^{24}	3.33×10^{-10}
Uranus	7.00×10^{24}	2.00×10^{24}	5.84×10^{-10}
Neptune	4.00×10^{24}	4.00×10^{24}	8.34×10^{-11}

Question 31.1.2 (6, 13, 28)**Answer:**

7;

2;

The operation is SUBTRACTION and the result is 5.0000.

Question 31.1.3 (6, 11, 26)**Answer:**

The possibility of non-smoking and under 30 years old customer is $(1 - a)(1 - b) = 2.82 \times 10^{-2}$.

Question 31.1.4 (6, 7, 22)**Auto-answer:****D.** The acceleration (vector) is $(8937.9, 1787.6, -446897.)km/h^2$.**Question 31.1.5 (6, 8, 23)****Auto-answer:****A.** The acceleration is $(1.7308ms^{-2}, .17308ms^{-2}, -747692.km/h^2)$.**Question 31.1.6 (6, 12, 27)****Answer:**

Customer	Possibility
smoking and equal-or-above 30 years old	7.52×10^{-2}
smoking and under 30 years old	.395
non-smoking and equal-or-above 30 years old	8.48×10^{-2}
non-smoking and under 30 years old	.445

And the total summation of all possibilities is 1.000.

QUESTION 31.2 (3, 3, 3)**Auto-answer:****D.** Canada has 10 provinces and 3 territories.**QUESTION 31.3 (4, 4, 4)****Auto-answer:**

Column Left	Column Right	Answers
A. yjh	b	B.
B. B	ER	C.
C. Er	a= 2	E.
D. A	YJH	A.
E. A= 4/ 2	a	D.

QUESTION 31.4 (2, 2, 2)**Auto-answer:****B.** The acceleration is $(1.2000ms^{-2}, 1296.0km/h^2, -120.00ms^{-2})$.**QUESTION 31.5 (5, 5, 5)****Answer:**

The correct answer	<i>F</i>	1. 37 is an even number.
The correct answer	<i>F</i>	2. Hull is in Ontario province.
The correct answer	<i>F</i>	3. $\mathbf{F} = m\mathbf{a}$ is a mathmatical form of Newton's Law of Universal Gravitation.

QUESTION 31.6 (1, 1, 1)**Auto-answer:****E.** The acceleration is $(.893, 8.9 \times 10^{-2}, -160.71)ms^{-2}$.**Answer:**

The correct answer from the choices is

E. The acceleration is $(.893, 8.9 \times 10^{-2}, -160.71)ms^{-2}$.**QUESTION 31.7 (8, 15, 60)****Answer:**

$$\begin{pmatrix} 4 & 6 & 5 & 6 \\ 5 & 4 & 5 & 6 \\ 6 & 5 & 5 & 5 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 42 \\ 40 \\ 42 \end{pmatrix}$$

$$\begin{pmatrix} \Phi & \gamma \\ \Upsilon & \Upsilon \\ \beta & \zeta \\ \Lambda & \Delta \end{pmatrix} \begin{pmatrix} \gamma \\ \beta \end{pmatrix} = \begin{pmatrix} \Phi \times \gamma + \gamma \times \beta \\ \Upsilon \times \gamma + \Upsilon \times \beta \\ \beta \times \gamma + \zeta \times \beta \\ \Lambda \times \gamma + \Delta \times \beta \end{pmatrix}$$

QUESTION 31.8 (7, 14, 50)

Auto-answer:

C. The acceleration is $(.862, 8.6 \times 10^{-2}, -51.724)ms^{-2}$.

QUESTION 31.9 (9, 16, 70)

Answer:

-7, -1

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 31.1 through 31.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 32

THIS IS AN EXAMPLE OF PERSONALIZED TESTS.

If needed, please use the following constants.

Please be advised that in this paper there are questions from 32.1 through 32.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

QUESTION 32.1 (6)

Please answer **ONLY 5** of the following 6 questions (Questions 32.1.1 through 32.1.6).

Question 32.1.1 (6, 12, 27)

Answer:

Customer	Possibility
smoking and equal-or-above 30 years old	.378
smoking and under 30 years old	.162
non-smoking and equal-or-above 30 years old	.322
non-smoking and under 30 years old	.138

And the total summation of all possibilities is 1.000.

Question 32.1.2 (6, 8, 23)

Auto-answer:

C. The acceleration is $(1.6667ms^{-2}, 9.2593 \times 10^{-2}ms^{-2}, -1.2000 \times 10^6 km/h^2)$.

Question 32.1.3 (6, 9, 24)

Answer:

By using Newton's Law of Universal Gravitation:

$$F = G \frac{(Sun's \text{ mass}) \times (Planet's \text{ mass})}{(distance)^2},$$

where $G = 6.67 \times 10^{-11} Nm^2(kg)^{-2}$, the forces can be easily calculated as

The Planet	Mass (kg)	Distanace from Sun (m)	The Force (N)
Mercury	$2.00000000 \times 10^{24}$	$6.000000000 \times 10^{24}$	2.59×10^{-11}
Venus	6.00×10^{24}	3.00×10^{24}	3.11×10^{-10}
Earth	8.00×10^{24}	5.00×10^{24}	1.49×10^{-10}
Mars	5.00×10^{24}	2.00×10^{24}	5.84×10^{-10}
Jupiter	3.00×10^{24}	9.00×10^{24}	$1.73 \times 10^{-11}3$
Saturn	8.00×10^{24}	9.00×10^{24}	4.61×10^{-11}
Uranus	5.00×10^{24}	4.00×10^{24}	1.46×10^{-10}
Neptune	3.00×10^{24}	8.00×10^{24}	2.19×10^{-11}

Question 32.1.4 (6, 7, 22)

Auto-answer:

E. The accelaration (vector) is $(12960., 1814.4, -1.5552 \times 10^6)km/h^2$.

Question 32.1.5 (6, 10, 25)

Auto-answer:

A. A truck

C. An airplane

Question 32.1.6 (6, 6, 21)

Answer:

We will use the Newton's Second Law:

$$\mathbf{f} = m\mathbf{a}.$$

Since $\mathbf{f} = (50.0, 5.0, -3000.0)N$ and $m = 54.0kg$, bring them into the above equation, then we get

$$\begin{aligned}
 \mathbf{a} &= \frac{\mathbf{f}}{m} \\
 &= \frac{(50.0, 5.0, -3000.0)N}{54.0kg} \\
 &= (.92593, 9.2593 \times 10^{-2}, -55.556)ms^{-2} \\
 &= (12000., 1200.0, -720000.)km/h^2.
 \end{aligned}$$

QUESTION 32.2 (5, 5, 5)

Answer:

The correct answer	<i>T</i>	1. 5 is an odd number.
The correct answer	<i>T</i>	2. Kingston is in Ontario province.
The correct answer	<i>T</i>	3. $\mathbf{F} = m\mathbf{a}$ is a mathematical form of the Newton's Second Law.

QUESTION 32.3 (4, 4, 4)

Auto-answer:

Column Left	Column Right	Answers
A. yjh	eR	C. , D.
B. C	b	E.
C. er	YJH	A.
D. Er	ER	C. , D.
E. B	c	B.

QUESTION 32.4 (2, 2, 2)

Auto-answer:

E. The acceleration is $(.34483ms^{-2}, 2234.5km/h^2, -155.17ms^{-2})$.

QUESTION 32.5 (3, 3, 3)

Auto-answer:

A. Canada has 10 provinces and 3 territories.

QUESTION 32.6 (1, 1, 1)

Auto-answer:

F. The acceleration is $(.800, .16, -120.00)ms^{-2}$.

Answer:

The correct answer from the choices is

F. The acceleration is $(.800, .16, -120.00)ms^{-2}$.

QUESTION 32.7 (8, 15, 60)

Answer:

$$\begin{pmatrix} 7 & 4 & 4 & 7 \\ 6 & 4 & 5 & 7 \\ 5 & 6 & 6 & 5 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 44 \\ 44 \\ 44 \end{pmatrix}$$

$$\begin{pmatrix} \Xi & \eta \\ \Upsilon & \Lambda \\ \delta & \delta \\ \rho & \sigma \end{pmatrix} \begin{pmatrix} \beta \\ \beta \end{pmatrix} = \begin{pmatrix} \Xi \times \beta + \eta \times \beta \\ \Upsilon \times \beta + \Lambda \times \beta \\ \delta \times \beta + \delta \times \beta \\ \rho \times \beta + \sigma \times \beta \end{pmatrix}$$

QUESTION 32.8 (7, 14, 50)

Auto-answer:

D. The acceleration is $(1.21, .10, -86.207)ms^{-2}$.

QUESTION 32.9 (9, 16, 70)

Answer:

-3, 5

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 32.1 through 32.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

Answers NOT for examinees !!! April 10, 2021

32005

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 33

THIS IS AN EXAMPLE OF PERSONALIZED TESTS.

If needed, please use the following constants.

Please be advised that in this paper there are questions from 33.1 through 33.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

QUESTION 33.1 (6)

Please answer **ONLY 5** of the following 6 questions (Questions 33.1.1 through 33.1.6).

Question 33.1.1 (6, 12, 27)

Answer:

Customer	Possibility
smoking and equal-or-above 30 years old	.431
smoking and under 30 years old	8.80×10^{-3}
non-smoking and equal-or-above 30 years old	.549
non-smoking and under 30 years old	1.12×10^{-2}

And the total summation of all possibilities is 1.0000.

Question 33.1.2 (6, 11, 26)

Answer:

The possibility of non-smoking and under 30 years old customer is $(1 - a)(1 - b) = 9.12 \times 10^{-2}$.

Question 33.1.3 (6, 13, 28)

Answer:

5;

2;

The operation is MULTIPLICATION and the result is 10.000.

Question 33.1.4 (6, 9, 24)**Answer:**

By using Newton's Law of Universal Gravitation:

$$F = G \frac{(\text{Sun's mass}) \times (\text{Planet's mass})}{(\text{distance})^2},$$

where $G = 6.67 \times 10^{-11} \text{Nm}^2(\text{kg})^{-2}$, the forces can be easily calculated as

The Planet	Mass (kg)	Distanace from Sun (m)	The Force (N)
Mercury	$3.00000000 \times 10^{24}$	$2.000000000 \times 10^{24}$	1.00×10^{-10}
Venus	7.00×10^{24}	5.00×10^{24}	3.74×10^{-11}
Earth	7.00×10^{24}	9.00×10^{24}	1.15×10^{-11}
Mars	6.00×10^{24}	5.00×10^{24}	3.20×10^{-11}
Jupiter	6.00×10^{24}	4.00×10^{24}	$5.00 \times 10^{-11}3$
Saturn	7.00×10^{24}	7.00×10^{24}	1.91×10^{-11}
Uranus	8.00×10^{24}	5.00×10^{24}	4.27×10^{-11}
Neptune	5.00×10^{24}	5.00×10^{24}	2.67×10^{-11}

Question 33.1.5 (6, 8, 23)**Auto-answer:****B.** The accelaration is $(1.4000ms^{-2}, .18000ms^{-2}, -2.0736 \times 10^6 km/h^2)$.**Question 33.1.6 (6, 10, 25)****Auto-answer:****A.** An airplane**QUESTION 33.2 (3, 3, 3)****Auto-answer:****A.** Canada has 10 provinces and 3 territories.**QUESTION 33.3 (5, 5, 5)**

Answer:

The correct answer	<i>T</i>	1. 60 is an even number.
The correct answer	<i>T</i>	2. Kingston is in Ontario province.
The correct answer	<i>T</i>	3. $\mathbf{F} = m\mathbf{a}$ is a mathematical form of the Newton's Second Law.

QUESTION 33.4 (1, 1, 1)**Auto-answer:**

G. The acceleration is $(.385, .17, -76.923)ms^{-2}$.

Answer:

The correct answer from the choices is

G. The acceleration is $(.385, .17, -76.923)ms^{-2}$.

QUESTION 33.5 (2, 2, 2)**Auto-answer:**

G. None of these.

QUESTION 33.6 (4, 4, 4)**Auto-answer:**

Column Left	Column Right	Answers
A. B	ER	C.
B. asdf(:)	a= 2	E.
C. er	YJH	D.
D. yjh	b	A.
E. A= 4/ 2	ASDF(:)	B.

QUESTION 33.7 (8, 15, 60)**Answer:**

$$\begin{pmatrix} 6 & 6 & 6 & 4 \\ 5 & 4 & 5 & 6 \\ 4 & 4 & 5 & 4 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 44 \\ 40 \\ 34 \end{pmatrix}$$

$$\begin{pmatrix} \Theta & \eta \\ \rho & \Gamma \\ \zeta & \Delta \\ \alpha & \Theta \end{pmatrix} \begin{pmatrix} \beta \\ \beta \end{pmatrix} = \begin{pmatrix} \Theta \times \beta + \eta \times \beta \\ \rho \times \beta + \Gamma \times \beta \\ \zeta \times \beta + \Delta \times \beta \\ \alpha \times \beta + \Theta \times \beta \end{pmatrix}$$

QUESTION 33.8 (7, 14, 50)

Auto-answer:

B. The acceleration is $(.370, 7.4 \times 10^{-2}, -55.556)ms^{-2}$.

QUESTION 33.9 (9, 16, 70)

Answer:

9, -19

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 33.1 through 33.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

***** END OF PAPER, THANKS *****

By: 239(26, 34)

THIS IS THE ANSWERS FOR PAPER NUMBER 34

THIS IS AN EXAMPLE OF PERSONALIZED TESTS.

If needed, please use the following constants.

Please be advised that in this paper there are questions from 34.1 through 34.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

QUESTION 34.1 (6)

Please answer **ONLY 5** of the following **6** questions (Questions 34.1.1 through 34.1.6).

Question 34.1.1 (6, 8, 23)

Auto-answer:

C. The acceleration is $(1.3462ms^{-2}, 3.8462 \times 10^{-2}ms^{-2}, -498462.km/h^2)$.

Question 34.1.2 (6, 9, 24)

Answer:

By using Newton's Law of Universal Gravitation:

$$F = G \frac{(Sun's \ mass) \times (Planet's \ mass)}{(distance)^2},$$

where $G = 6.67 \times 10^{-11}Nm^2(kg)^{-2}$, the forces can be easily calculated as

The Planet	Mass (kg)	Distanace from Sun (m)	The Force (N)
Mercury	$7.00000000 \times 10^{24}$	$8.000000000 \times 10^{24}$	4.38×10^{-11}
Venus	4.00×10^{24}	6.00×10^{24}	4.45×10^{-11}
Earth	5.00×10^{24}	7.00×10^{24}	4.08×10^{-11}
Mars	6.00×10^{24}	7.00×10^{24}	4.90×10^{-11}
Jupiter	4.00×10^{24}	4.00×10^{24}	$1.00 \times 10^{-10}3$
Saturn	4.00×10^{24}	7.00×10^{24}	3.27×10^{-11}
Uranus	3.00×10^{24}	3.00×10^{24}	1.33×10^{-10}
Neptune	7.00×10^{24}	3.00×10^{24}	3.11×10^{-10}

Question 34.1.3 (6, 7, 22)**Auto-answer:**

A. The accelaration (vector) is $(7200.0, 1920.0, -1.9200 \times 10^6)km/h^2$.

Question 34.1.4 (6, 11, 26)**Answer:**

The possibility of non-smoking and equal or above 30 years old customer is $(1 - a)(1 - b) = 6.96 \times 10^{-2}$.

Question 34.1.5 (6, 6, 21)**Answer:**

We will use the Newton's Second Law:

$$\mathbf{f} = m\mathbf{a}.$$

Since $\mathbf{f} = (20.0, 3.0, -6000.0)N$ and $m = 54.0kg$, bring them into the above equation, then we get

$$\begin{aligned}
 \mathbf{a} &= \frac{\mathbf{f}}{m} \\
 &= \frac{(20.0, 3.0, -6000.0)N}{54.0kg} \\
 &= (.37037, 5.5556 \times 10^{-2}, -111.11)ms^{-2} \\
 &= (4800.0, 720.00, -1.4400 \times 10^6)km/h^2.
 \end{aligned}$$

Question 34.1.6 (6, 10, 25)

Auto-answer:

- C. A truck
- D. An airplane

QUESTION 34.2 (2, 2, 2)

Auto-answer:

- C. The acceleration is $(1.0000ms^{-2}, 1555.2km/h^2, -100.00ms^{-2})$.

QUESTION 34.3 (1, 1, 1)

Auto-answer:

- G. The acceleration is $(.714, .18, -142.86)ms^{-2}$.

Answer:

The correct answer from the choices is

- G. The acceleration is $(.714, .18, -142.86)ms^{-2}$.

QUESTION 34.4 (3, 3, 3)

Auto-answer:

- E. Canada has 10 provinces and 3 territories.

QUESTION 34.5 (5, 5, 5)

Answer:

The correct answer	<i>T</i>	1. 97 is an odd number.
The correct answer	<i>T</i>	2. Kingston is in Ontario province.
The correct answer	<i>T</i>	3. $\mathbf{F} = m\mathbf{a}$ is a mathematical form of the Newton's Second Law.

QUESTION 34.6 (4, 4, 4)

Auto-answer:

Column Left	Column Right	Answers
A. C	YJH	E.
B. A	a	B.
C. B	c	A.
D. asdf(:)	ASDF(:)	D.
E. yjh	b	C.

QUESTION 34.7 (8, 15, 60)**Answer:**

$$\begin{pmatrix} 5 & 5 & 4 & 6 \\ 6 & 4 & 7 & 5 \\ 7 & 7 & 7 & 7 \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix} = \begin{pmatrix} 40 \\ 44 \\ 56 \end{pmatrix}$$

$$\begin{pmatrix} \zeta & \varepsilon \\ \gamma & \Gamma \\ \Theta & \varepsilon \\ \gamma & \zeta \end{pmatrix} \begin{pmatrix} \beta \\ \beta \end{pmatrix} = \begin{pmatrix} \zeta \times \beta + \varepsilon \times \beta \\ \gamma \times \beta + \Gamma \times \beta \\ \Theta \times \beta + \varepsilon \times \beta \\ \gamma \times \beta + \zeta \times \beta \end{pmatrix}$$

QUESTION 34.8 (7, 14, 50)**Auto-answer:****C.** The accelaration is $(1.67, .17, -74.074)ms^{-2}$.**QUESTION 34.9 (9, 16, 70)****Answer:**

21, 20

Here are still some constants for use:

Thank you very much for answering these questions!

Please be advised that in this paper there are questions from 34.1 through 34.9. And any one of them may contain more than one sub-question, thus the total number of sub-questions here is around 14, of which 13 should be answered.

Answers NOT for examinees !!! April 10, 2021

34005

***** END OF PAPER, THANKS *****

By: 239(26, 34)

STATISTICS

Initial seed for random numbers	239
First paper number	26
Last paper number	34
Total papers to be generated	9
Total marks from input file	100.00
Total actual marks	100.00
Total lines of the input file	915
Total QUESTIONS in input file	16
Total CHOOSEs in input file	1
Total NOTEs in input file	2
Total (big) questions in each paper	9
Total actual (sub)questions in each paper	14
Total (sub)questions to be answered in each paper	13

For each big question

Big question	Choose?	Questions needed	Questions from	Question IDs
1(4,3.13)	No	1(1, 1)	1(1 ,3.13 ,10.00)	1
2(4,1.56)	No	1(1, 1)	2(0 ,1.56 ,5.00)	2
3(4,1.56)	No	1(1, 1)	3(1 ,1.56 ,5.00)	3
4(4,3.13)	No	1(1, 1)	4(0 ,3.13 ,10.00)	4
5(4,1.56)	No	1(1, 1)	5(0 ,1.56 ,5.00)	5
6(2,62.50 ,40.00)	1	6(5, 8)	6(0 ,12.50 ,5.00)	21
			7(0 ,12.50 ,5.00)	22
			8(0 ,12.50 ,6.00)	23
			9(0 ,12.50 ,8.00)	24
			10(1 ,12.50 ,5.70)	25
			11(0 ,12.50 ,12.40)	26
			12(0 ,12.50 ,24.50)	27

Big question	Choose?	Questions needed	Questions from	Question IDs
			13(0 ,12.50 ,67.20)	28
7(8,12.50)	No	1(1, 1)	14(1 ,12.50 ,40.00)	50
8(8,12.50)	No	1(1, 1)	15(0 ,12.50 ,40.00)	60
9(14,1.56)	No	1(1, 1)	16(0 ,1.56 ,5.00)	70