a02_1Dkinem_definitions

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Attribution for each question is documented in the Appendix

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Latex markup at
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Contents

1 Quiz

1. A car traveling at 35.3 miles/hour stops in 4.3 seconds. What is the average acceleration?[1]

   A. 2.06 x 10^0 m/s^2

   B. 3.67 x 10^0 m/s^2

   C. 6.53 x 10^0 m/s^2

   D. 1.16 x 10^1 m/s^2

   E. 2.06 x 10^1 m/s^2

2. A car completes a complete circle of radius 3.1 miles at a speed of 51 miles per hour. How many minutes does it take?[2]

   A. 7.25 x 10^0 minutes

   B. 9.66 x 10^0 minutes

   C. 1.29 x 10^1 minutes

   D. 1.72 x 10^1 minutes

   E. 2.29 x 10^1 minutes

3. A car traveling at 21.3 mph increases its speed to 24.2 mph in 1.4seconds. What is the average acceleration?[3]

   A. 9.26 x 10^{-1} m/s^2

   B. 1.65 x 10^0 m/s^2

   C. 2.93 x 10^0 m/s^2

   D. 5.21 x 10^0 m/s^2

   E. 9.26 x 10^0 m/s^2

4. Mr. Smith is backing his car at a speed of 3.28 mph when he hits a cornfield (seed corn). In the course of 1.92 seconds he stops, puts his car in forward drive, and exits the field at a speed of 5.66 mph. What was the "magnitude" (absolute value) of his acceleration?[4]

   A. 2.94 x 10^0 miles per hour per second

   B. 3.7 x 10^0 miles per hour per second

   C. 4.66 x 10^0 miles per hour per second

   D. 5.86 x 10^0 miles per hour per second

   E. 7.38 x 10^0 miles per hour per second

2 Renditions

2.1

1. A car traveling at 33.5 miles/hour stops in 7.9 seconds. What is the average acceleration?
   A. 3.37 x 10^{-1} m/s^2
   B. 5.99 x 10^{-1} m/s^2
   C. 1.07 x 10^{0} m/s^2
   D. 1.9 x 10^{0} m/s^2
   E. 3.37 x 10^{0} m/s^2

2. A car traveling at 75.4 miles/hour stops in 1.9 seconds. What is the average acceleration?
   A. 1.77 x 10^{1} m/s^2
   B. 3.15 x 10^{1} m/s^2
   C. 5.61 x 10^{1} m/s^2
   D. 9.98 x 10^{1} m/s^2
   E. 1.77 x 10^{2} m/s^2

3. A car traveling at 77.8 miles/hour stops in 6.4 seconds. What is the average acceleration?
   A. 3.06 x 10^{0} m/s^2
   B. 5.43 x 10^{0} m/s^2
   C. 9.66 x 10^{0} m/s^2
   D. 1.72 x 10^{1} m/s^2
   E. 3.06 x 10^{1} m/s^2

4. A car traveling at 38.1 miles/hour stops in 2.1 seconds. What is the average acceleration?
   A. 4.56 x 10^{0} m/s^2
   B. 8.11 x 10^{0} m/s^2
   C. 1.44 x 10^{1} m/s^2
   D. 2.56 x 10^{1} m/s^2
   E. 4.56 x 10^{1} m/s^2

5. A car traveling at 34.5 miles/hour stops in 1.7 seconds. What is the average acceleration?
   A. 9.07 x 10^{-1} m/s^2
   B. 1.61 x 10^{0} m/s^2
   C. 2.87 x 10^{0} m/s^2
   D. 5.1 x 10^{0} m/s^2
   E. 9.07 x 10^{0} m/s^2

6. A car traveling at 54 miles/hour stops in 5.2 seconds. What is the average acceleration?
   A. 4.64 x 10^{0} m/s^2
   B. 8.26 x 10^{0} m/s^2
   C. 1.47 x 10^{1} m/s^2
   D. 2.61 x 10^{1} m/s^2
   E. 4.64 x 10^{1} m/s^2

7. A car traveling at 42.8 miles/hour stops in 7.5 seconds. What is the average acceleration?

   A. 8.07×10^{-1} m/s^2

   B. 1.43×10^{0} m/s^2

   C. 2.55×10^{0} m/s^2

   D. 4.54×10^{0} m/s^2

   E. 8.07×10^{0} m/s^2

8. A car traveling at 44.6 miles/hour stops in 1.8 seconds. What is the average acceleration?

   A. 1.11×10^{0} m/s^2

   B. 1.97×10^{0} m/s^2

   C. 3.5×10^{0} m/s^2

   D. 6.23×10^{0} m/s^2

   E. 1.11×10^{1} m/s^2

2.2

1. A car completes a complete circle of radius 2.9 miles at a speed of 42.2 miles per hour. How many minutes does it take?

   A. 2.59×10^1 minutes

   B. 3.45×10^1 minutes

   C. 4.61×10^1 minutes

   D. 6.14×10^1 minutes

   E. 8.19×10^1 minutes

2. A car completes a complete circle of radius 3 miles at a speed of 62.1 miles per hour. How many minutes does it take?

   A. 1.37×10^1 minutes

   B. 1.82×10^1 minutes

   C. 2.43×10^1 minutes

   D. 3.24×10^1 minutes

   E. 4.32×10^1 minutes

3. A car completes a complete circle of radius 1.2 miles at a speed of 66.2 miles per hour. How many minutes does it take?

   A. 3.84×10^0 minutes

   B. 5.12×10^0 minutes

   C. 6.83×10^0 minutes

   D. 9.11×10^0 minutes

   E. 1.22×10^1 minutes

4. A car completes a complete circle of radius 2.2 miles at a speed of 63.6 miles per hour. How many minutes does it take?

   A. 9.78×10^0 minutes

   B. 1.3×10^1 minutes

   C. 1.74×10^1 minutes

   D. 2.32×10^1 minutes

   E. 3.09×10^1 minutes

5. A car completes a complete circle of radius 1.7 miles at a speed of 55.1 miles per hour. How many minutes does it take?

   A. 1.16×10^1 minutes

   B. 1.55×10^1 minutes

   C. 2.07×10^1 minutes

   D. 2.76×10^1 minutes

   E. 3.68×10^1 minutes

6. A car completes a complete circle of radius 2.6 miles at a speed of 63.7 miles per hour. How many minutes does it take?

   A. 8.65×10^0 minutes

   B. 1.15×10^1 minutes

C. 1.54 x 10^1 minutes

D. 2.05 x 10^1 minutes

E. 2.74 x 10^1 minutes

7. A car completes a complete circle of radius 1.2 miles at a speed of 42 miles per hour. How many minutes does it take?

A. 3.41 x 10^0 minutes

B. 4.54 x 10^0 minutes

C. 6.06 x 10^0 minutes

D. 8.08 x 10^0 minutes

E. 1.08 x 10^1 minutes

8. A car completes a complete circle of radius 3 miles at a speed of 67.5 miles per hour. How many minutes does it take?

A. 5.3 x 10^0 minutes

B. 7.07 x 10^0 minutes

C. 9.42 x 10^0 minutes

D. 1.26 x 10^1 minutes

E. 1.68 x 10^1 minutes

2.3

1. A car traveling at 33.8 mph increases its speed to 38.3 mph in 6.7seconds. What is the average acceleration?
   A. 9.49×10^{-2} m/s^2
   B. 1.69×10^{-1} m/s^2
   C. 3×10^{-1} m/s^2
   D. 5.34×10^{-1} m/s^2
   E. 9.49×10^{-1} m/s^2

2. A car traveling at 34.7 mph increases its speed to 37.7 mph in 1.2seconds. What is the average acceleration?
   A. 1.99×10^{-1} m/s^2
   B. 3.53×10^{-1} m/s^2
   C. 6.28×10^{-1} m/s^2
   D. 1.12×10^{0} m/s^2
   E. 1.99×10^{0} m/s^2

3. A car traveling at 29.4 mph increases its speed to 32.7 mph in 5.3 seconds. What is the average acceleration?
   A. 8.8×10^{-2} m/s^2
   B. 1.57×10^{-1} m/s^2
   C. 2.78×10^{-1} m/s^2
   D. 4.95×10^{-1} m/s^2
   E. 8.8×10^{-1} m/s^2

4. A car traveling at 33.2 mph increases its speed to 35.8 mph in 4.9 seconds. What is the average acceleration?
   A. 1.33×10^{-1} m/s^2
   B. 2.37×10^{-1} m/s^2
   C. 4.22×10^{-1} m/s^2
   D. 7.5×10^{-1} m/s^2
   E. 1.33×10^{0} m/s^2

5. A car traveling at 30.4 mph increases its speed to 32.9 mph in 6.9 seconds. What is the average acceleration?
   A. 5.12×10^{-2} m/s^2
   B. 9.11×10^{-2} m/s^2
   C. 1.62×10^{-1} m/s^2
   D. 2.88×10^{-1} m/s^2
   E. 5.12×10^{-1} m/s^2

6. A car traveling at 32.9 mph increases its speed to 35.1 mph in 4.6 seconds. What is the average acceleration?
   A. 2.14×10^{-1} m/s^2
   B. 3.8×10^{-1} m/s^2
   C. 6.76×10^{-1} m/s^2
   D. 1.2×10^{0} m/s^2
   E. 2.14×10^{0} m/s^2

7. A car traveling at 38.9 mph increases its speed to 43.7 mph in 3 seconds. What is the average acceleration?

A. 2.26×10^{-1} m/s^2

B. 4.02×10^{-1} m/s^2

C. 7.15×10^{-1} m/s^2

D. 1.27×10^{0} m/s^2

E. 2.26×10^{0} m/s^2

8. A car traveling at 27 mph increases its speed to 29.5 mph in 5.4 seconds. What is the average acceleration?

A. 2.07×10^{-1} m/s^2

B. 3.68×10^{-1} m/s^2

C. 6.54×10^{-1} m/s^2

D. 1.16×10^{0} m/s^2

E. 2.07×10^{0} m/s^2

2.4

1. Mr. Smith is backing his car at a speed of 2.42 mph when he hits a cornfield (seed corn). In the course of 2.35 seconds he stops, puts his car in forward drive, and exits the field at a speed of 6.1 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 2.29 x 10^0 miles per hour per second

   B. 2.88 x 10^0 miles per hour per second

   C. 3.63 x 10^0 miles per hour per second

   D. 4.56 x 10^0 miles per hour per second

   E. 5.75 x 10^0 miles per hour per second

2. Mr. Smith is backing his car at a speed of 3.06 mph when he hits a cornfield (seed corn). In the course of 1.29 seconds he stops, puts his car in forward drive, and exits the field at a speed of 5.6 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 3.36 x 10^0 miles per hour per second

   B. 4.24 x 10^0 miles per hour per second

   C. 5.33 x 10^0 miles per hour per second

   D. 6.71 x 10^0 miles per hour per second

   E. 8.45 x 10^0 miles per hour per second

3. Mr. Smith is backing his car at a speed of 2.33 mph when he hits a cornfield (seed corn). In the course of 1.22 seconds he stops, puts his car in forward drive, and exits the field at a speed of 6.68 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 2.94 x 10^0 miles per hour per second

   B. 3.7 x 10^0 miles per hour per second

   C. 4.66 x 10^0 miles per hour per second

   D. 5.87 x 10^0 miles per hour per second

   E. 7.39 x 10^0 miles per hour per second

4. Mr. Smith is backing his car at a speed of 3.12 mph when he hits a cornfield (seed corn). In the course of 2.39 seconds he stops, puts his car in forward drive, and exits the field at a speed of 6.32 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 3.95 x 10^0 miles per hour per second

   B. 4.97 x 10^0 miles per hour per second

   C. 6.26 x 10^0 miles per hour per second

   D. 7.88 x 10^0 miles per hour per second

   E. 9.92 x 10^0 miles per hour per second

5. Mr. Smith is backing his car at a speed of 3.57 mph when he hits a cornfield (seed corn). In the course of 2.8 seconds he stops, puts his car in forward drive, and exits the field at a speed of 6.75 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 1.85 x 10^0 miles per hour per second

   B. 2.33 x 10^0 miles per hour per second

   C. 2.93 x 10^0 miles per hour per second

   D. 3.69 x 10^0 miles per hour per second

   E. 4.64 x 10^0 miles per hour per second

6. Mr. Smith is backing his car at a speed of 2.39 mph when he hits a cornfield (seed corn). In the course of 2.94 seconds he stops, puts his car in forward drive, and exits the field at a speed of 5.12 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 1.61×10^0 miles per hour per second

   B. 2.03×10^0 miles per hour per second

   C. 2.55×10^0 miles per hour per second

   D. 3.22×10^0 miles per hour per second

   E. 4.05×10^0 miles per hour per second

7. Mr. Smith is backing his car at a speed of 3.8 mph when he hits a cornfield (seed corn). In the course of 2.16 seconds he stops, puts his car in forward drive, and exits the field at a speed of 5.9 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 2.25×10^0 miles per hour per second

   B. 2.83×10^0 miles per hour per second

   C. 3.57×10^0 miles per hour per second

   D. 4.49×10^0 miles per hour per second

   E. 5.65×10^0 miles per hour per second

8. Mr. Smith is backing his car at a speed of 4.27 mph when he hits a cornfield (seed corn). In the course of 1.74 seconds he stops, puts his car in forward drive, and exits the field at a speed of 6.17 mph. What was the "magnitude" (absolute value) of his acceleration?

   A. 6×10^0 miles per hour per second

   B. 7.55×10^0 miles per hour per second

   C. 9.51×10^0 miles per hour per second

   D. 1.2×10^1 miles per hour per second

   E. 1.51×10^1 miles per hour per second

3 Attribution

Notes

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