Certified SolidWorks Associate (CSWA)

Sample Exam Questions

The questions below represent sample CSWA Exam questions. Part modeling and assembly modeling questions that require you to build model should be correctly answered in 45 minutes or less. Question 2 and Question 3 should be correctly answered in 5 minutes or less.

**Question 1.**

Build this part in SolidWorks.

Unit system: MMGS (millimeter, gram, second)

Decimal places: 2  Part origin: Arbitrary

A = 63mm,  B = 50mm,  C = 100mm.  All holes through all.

Part material: Copper Density = 0.0089 g/mm^3

What is the overall mass of the part in grams?

a) 1205

b) 1280

c) 144

d) 1108
Question 2.

COSMOSXPress allows changes to mesh settings. Which of the following statements is not True?

a) A fine mesh setting produces more accurate results than a course mesh.
b) A coarse mesh setting produces less accurate results than a fine mesh.
c) A fine mesh setting can be applied to a specific face instead of the entire model.
d) All of the above

Question 3.

To create drawing view, ‘B’ it is necessary to sketch a spline (as shown) on drawing view ‘A’ and insert which SolidWorks view type?

a) Brokenout Section  
b) Aligned Section  
c) Section  
d) Detail
Question 4.

Build this assembly in SolidWorks.

It contains 3 machined brackets and 2 pins.

Brackets: 2mm thickness, and equal size (holes through-all). Material: 6061 Alloy, Density = 0.0027g/mm^3. The top edge of the notch is located 20 mm from the top edge of the MachinedBracket.

Pins: 5 mm length and equal in diameter, Material: Titanium, Density = 0.0046g/mm^3. Pins are mated concentric to bracket holes (no clearance). Pin end faces are coincident to bracket outer faces. There is a 1 mm gap between the brackets. Brackets are positioned with equal angle mates (45 degrees).

Unit system: MMGS (millimeter, gram, second)
Decimal places: 2
Assembly origin: As shown.

What is the center of mass of the assembly?

a) \( X = -11.05 \quad Y = 24.08 \quad Z = -40.19 \)
b) \( X = -11.05 \quad Y = -24.08 \quad Z = 40.19 \)
c) \( X = 40.24 \quad Y = 24.33 \quad Z = 20.75 \)
d) \( X = 20.75 \quad Y = 24.33 \quad Z = 40.24 \)
Question 5.

Build this assembly in SolidWorks. It contains 3 components: Base, Yoke, Adjusting Pin. Apply the MMGS unit system.

Material: 1060 Alloy for all components. Density = 0.0027g/mm³

**Base:** The distance between the front face of the Base and the front face of the Yoke = 60mm.

**Yoke:** The Yoke fits inside the left and right square channels of the Base component, (no clearance). The top face of the Yoke contains a Ø12mm through-all hole.

**AdjustingPin:** The bottom face of the AdjustingPin head is located 40 mm from the top face of the Yoke component. The AdjustingPin component contains a Ø5mm though all hole.

What is the center of mass of the assembly with respect to the illustrated coordinate system?

a) X=-30.00  Y=-40.16  Z=-40.16
b) X=30.00  Y=40.16  Z=-43.82
c) X=-30.00  Y=-40.16  Z=50.20
d) X=30.00  Y=40.16  Z=-53.82
Question 6.

Build this part in SolidWorks.

**Material:** 6061 Alloy. Density = 0.0027g/mm$^3$

**Unit system:**
MMGS
(millimeter, gram, second)

**Decimal places:** 2.

**Part origin:**
Arbitrary
A = 100.

All holes through all, unless otherwise specified

What is the overall mass of the part in grams?

a) 2040.57

b) 2004.57

c) 102.63

d) 1561.23
CSWA Sample Exam Questions

For further preparation, please complete the SolidWorks tutorials, located in SolidWorks under the Help Menu, before taking the CSWA Exam. Review the "About the CSWA Exam" document located at www.solidworks.com/cswa.

Good Luck,

Certification Program Manager, SolidWorks Corporation

Correct answers:
1. b
2. c
3. a
4. c
5. d
6. a
Question 4 of 7

For 30 points:
A06347: Build this assembly in SolidWorks.
B contains 4 pins, 2 arms and 1 yoke.
Pin are equal in diameter and length.
Arms are equal in size (holes through-all).
Pin are mated concentric to arm holes (no clearance).
Pin and faces are coincident to arm outer faces and yoke.
Inner faces.
Unit system: MMGS (millimeter, gram, second)
Decimal places: 2 Assembly origin: As shown
A = 34.00
B = 240.00
C = 30.00
Yoke cut is through, wall thickness: 5
All fillets and rounds: 15
Material: Aluminium 6061; density = 0.0027 g/mm³
What is the center of mass of the assembly (millimeters)?

- X = -33.10, Y = 217.62, Z = 10.69
- X = -33.45, Y = 217.39, Z = 10.80
- X = -33.38, Y = 217.43, Z = 10.78
- X = -32.20, Y = 218.23, Z = 10.40
Question 3 of 7

For 30 points:

A01347: Build this part in SolidWorks.

Unit system: IPS (inch, pound, second)
Decimal places: 2
Part origin: Arbitrary
A = 3.20
B = 4.30
C = 3.20
D = 10.00 degrees
All holes through all
Part material: Copper; Density = 0.32 lb/in^3

What is the overall mass of the part (pounds)?
Design this part in SolidWorks.
Unit system: MMGS (millimeter, gram, second)
Decimal places: 2
Part origin: Arbitrary
Part material: Brass
Material Density: 0.0085 g/mm^3
Design note: the part is shelled throughout (single open face as shown)

**Question 1:**
A = 60     B = 64     C = 140     D = 19
What is the overall mass of the part (in grams)?

**Question 2:**
A = 50     B = 70     C = 160     D = 23
What is the overall mass of the part (in grams)?
Update part with new features/dimensions.
Unit system: MMGS (millimeter, gram, second)
Decimal places: 2
Part material: Brass
Material Density: 0.0085 g/mm³
Design note: no shell remaining

**Question 3:**
A = 60  
B = 64  
C = 140  
D = 19  
E = 25
What is the overall mass of the part (in grams)?

**Question 4:**
A = 70  
B = 80  
C = 130  
D = 15  
E = 40
What is the overall mass of the part (in grams)?
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ANSWERS

1) 1006.9 grams
2) 1230.82 grams
3) 2859.51 grams
4) 3218.14 grams

ADVICE

You should be able to answer all four questions correctly within 20 to 30 minutes.

Read through every question first. This will help you save time and make correct decisions when choosing which sketch plane to use and which sketch profile is best.

Avoid sketch fillets in this particular design.