



READ THIS NOW!

- Print your name in the space provided below.
- There are ... questions. The maximum score is
- The grading of each question will take into account whether you obtained a correct solution and how well you presented your analysis and justified your logic. In most cases, as much weight will be given to the presentation and explanation of your logic as to whether the solution is fully correct. Legibility will be strongly considered in the grading. You may ask for scratch paper to work out your solution before finalizing it on the exam.
- Externalize! Whether it's a drawing, a table, an equation or something else, externalize! And make the externalization explicit in your answer! Label things for clarity!
- You may use the supplied extra paper for scratch work. Write your name on any scratch work sheets you use and turn those in with your exam.
- All final answers must be written on the test form itself.
- When you have finished, sign the pledge at the bottom of this page and turn in the test.
- This is a closed-book, closed-notes examination.
- No laptops, calculators, cell phones or other electronic devices may be used during this examination.
- Until solutions are posted, you may not discuss this examination with any student who has not taken it.
- Failure to adhere to any of these restrictions is an Honor Code violation.

Name (Last, First) _____ print

Email _____ @ vt.edu
print

Pledge: *On my honor, I have neither given nor received unauthorized aid on this examination.*

signed

1. Analogies

For each analogy problem below, give the answer, and also give an appropriate relationship sentence that demonstrates a valid analogy relationship while ruling out the other answers.

_____ is to hand as _____ is to wall.

- a) finger : nail
- b) knuckle : picture
- c) ring : light
- d) glove : paint

_____ is to elephant as earth is to _____.

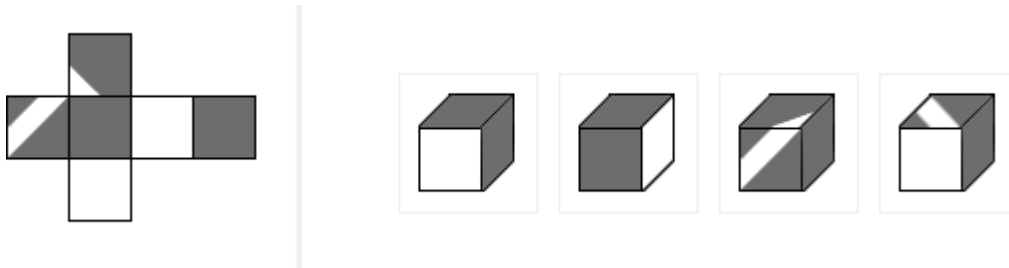
- a) ant : sun
- b) heart : solar system
- c) trunk : seasons
- d) Africa : Milky Way

2. Spatial Reasoning

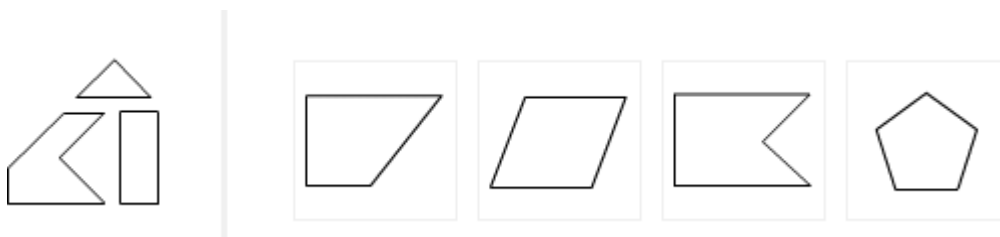
Circle your answer.

Give the following 2 dimensional shape at left.

When the shape (at left) is folded into three dimensions along the lines forming a cube which one of the following shapes (at right) results? (Circle your answer)



Given the set of the shapes (at left). Which figure (at right) can be formed from the set? (Circle your answer)



3. Verbal Reasoning

In a city known as the Big Carrot, streets that begin with a vowel and end with a consonant run east-west while those that begin with a consonant and end with a vowel run north-south. Other streets can go either way. A car driving north makes a left turn. Is it now traveling parallel or perpendicular to Eric Street? Write a clear, well-organized explanation of your solution.

4. PseudoCode

Design an algorithm and write the PseudoCode to compute the number of days before Christmas given any date.

5. Externalization

Three men—Fred, Ed, and Ted—are married to Joan, Sally and Vickie, but not necessarily in that order. Joan, who is Ed's sister, lives in Detroit. Fred dislikes animals. Ed weighs more than the man who is married to Vickie. The man married to Sally breeds Siamese cats as a hobby. Fred commutes over 200 hours a year from his home in Ann Arbor to his job in Detroit. Match up the men with the women they married.

