

Fundamentals Quiz

Senior Instructor: _____

Student: _____

1. How should the Ten Essentials be distributed among the group?

- A. By role – the navigator should have the map, the most trained first aider should have the first aid kit, etc.
- B. By couple – divvy up things so the stronger one carries most of the gear
- C. By group – split things up if we need only 1 copy per trip to keep weight down, like a full size first aid kit
- D. **By individual – everyone should always carry all ten essentials**

2. Why do we carry the Ten Essential Systems?

- A. To get a better workout from carrying a heavier pack
- B. **To be prepared for an accident, emergency, or unexpected overnight stay**
- C. To make the senior instructor or trip leader happy
- D. To have items that make the hike and lunch break more comfortable

3. What is the most important factor when selecting a fire starter?

- A. Needs to emit smoke for emergency signaling
- B. **Needs to work the first time every time**
- C. Needs to build a large bonfire for drying clothes

4. When should you eat and drink?

- A. When your hike is done, to have a better meal
- B. Only when the trip leader calls a break, to save time
- C. When you are thirsty or hungry for a while, to maximize weight loss
- D. **Eat and drink small amounts frequently, to avoid dehydration and bonking**

5. At altitude, food intake can be more difficult due to poor appetite and impaired food absorption.

- A. True**
- B. False

6. Fluid losses increase at altitude due to faster breathing and drier air.

- A. True**
- B. False

7. Summertime temperatures typically decrease _____ for every 1000 feet of elevation gain.

- A. 1-2 °F
- B. **3-5 °F**
- C. 7-10 °F
- D. 10-15 °F

8. A thunderstorm develops with rapidly rising, billowing white clouds that grow into a towering thunderhead.

- A. True**
- B. False

9. An approaching thunderstorm brings dark churning clouds, gusty winds from changing directions, thunder, and lightning.

- A. True**
- B. False

10. What's a good approach to decrease lightning risk above timberline?

- A. Start early so you have already descended to a safer area before a storm develops
- B. Assume the lightning position when you hear a thunderclap
- C. Wait to descend until a storm alert on your phone or detector device warns you
- D. Watch the other hikers and trust that it's safe if they are still heading to the peak

11. Seek shelter for 30 _____ if thunder is less than 30 seconds after lightning.

- A. Miles
- B. Minutes
- C. Seconds

12. Have group members spread out 50 feet apart when lightning is possible to avoid multiple casualties.

- A. True
- B. False

13. You are caught in a thunderstorm. Where is the safest place to be?

- A. On a ridge
- B. In a small cave or alcove
- C. Under a solitary tree
- D. In a stand of uniform height trees

14. Walk alongside rather than in the middle of muddy trails so you don't get your boots dirty.

- A. True
- B. False

15. Select a bathroom location that is at least _____ from water sources.

- A. 100 ft
- B. 200 ft
- C. 300 ft
- D. 500 ft

16. How deep should catholes be dug?

- A. However deep I can dig in 2 minutes
- B. 3-4 inches
- C. 6-8 inches
- D. Digging disturbs the earth, so place a large rock over top instead

17. What should you generally do if you come across a wild animal in the backcountry?

- A. Get close for a selfie
- B. Back away quietly, facing the animal
- C. Outrun your friends
- D. Pull your knife out

18. What should you do if a moose raises its hackles, licks its snout, pins back its ears, or starts charging?

- A. Move so a boulder or large tree is always between you and the animal or run away if there is nothing to shelter behind
- B. Be big by opening your jacket and raising your arms to scare the moose away
- C. Play dead and it will go away eventually
- D. Yell and throw rocks to scare the moose away

19. What should you do if you encounter a mountain lion?

- A. Be big by opening your jacket and raising your arms; fight back if attacked
- B. Run away quickly to trigger its prey drive and climb a tall sturdy tree
- C. Play dead and it will go away eventually
- D. Jump in a stream or lake because cats hate water

20. What should you do if you hear or see a rattlesnake?

- A. Use your hiking poles to move it out of your way
- B. Yell and throw rocks to scare it away
- C. Take off your backpack and use it as a shield
- D. Freeze, find any snakes nearby, then keep more than 5 ft away until the snake has moved, or you have circled around it

Navigation Quiz

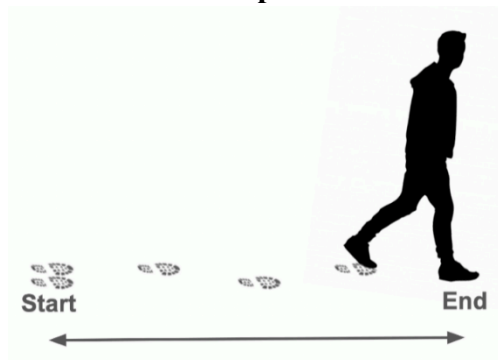
Senior Instructor: _____

Student: _____

1. You think you are hiking east on Wrangler's Run Trail in White Ranch Park, CO. What is a good sanity check?

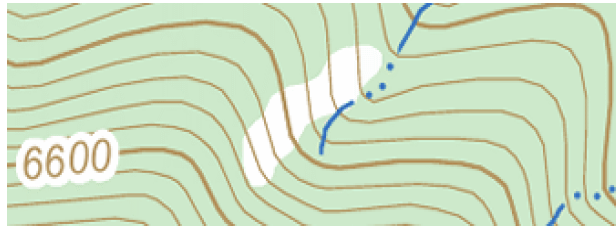


- A. There should be a stream acting as a handrail just south of the trail
- B. The dashed road to the west should act as a fail safe for you
- C. Wait for a trail sign, this is a well-marked park
2. Since it's difficult to determine the date that a map was last revised, which info from the map is likely still accurate?
- A. A large cliff on the west side of the mountain
- B. A trail junction next to a man-made structure
- C. The magnetic declination symbol
- D. The vegetation locations
- E. The power line locations
3. Your next bearing has you going 0.1 miles. Approximately how many paces is that?
- A. 10 paces
- B. 100 paces
- C. 1000 paces
4. What is the distance from "start" to "end" in paces?

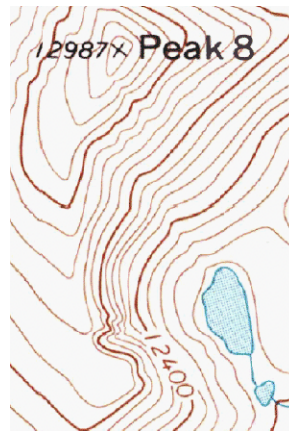


- A. 1 pace
- B. 2 paces
- C. 3 paces
- D. 4 paces
5. CalTopo, USGS, and most topographic map makers print maps in which orientation?
- A. True north is at the top on the printed page
- B. There is no standard orientation
- C. Magnetic north is at the top on the printed page
- D. True south is always to the right on the printed page

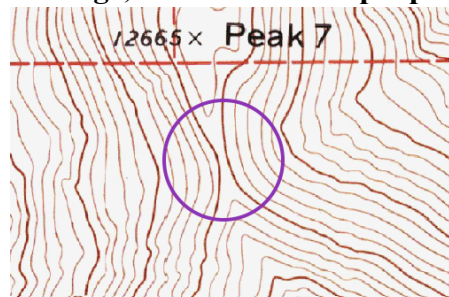
6. A friend asks you about a nearby map feature while hiking Flagstaff Mountain near Boulder, CO. What is the white blob in the center of this image?



- A. The typical snowpack in winter
 - B. A clearing in woods or brush
 - C. A small mesa
 - D. An intermittent lake
7. While fishing in the alpine lakes below Peak 8 in Breckenridge, CO you decide to climb Peak 8. Roughly how much higher would you need to climb?

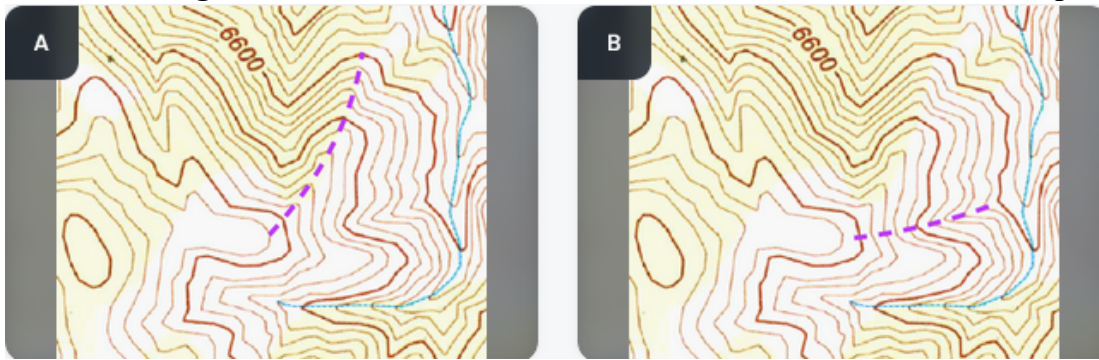


- A. 400'
 - B. 660'
 - C. 800'
 - D. 1020'
8. What map feature near Breckenridge, CO is circled in purple?



- A. Peak
- B. Mesa
- C. Valley
- D. Saddle

9. Which of these images from Mt. Vernon, CO has a RIDGELINE drawn in dashed purple?



A. A

B. B

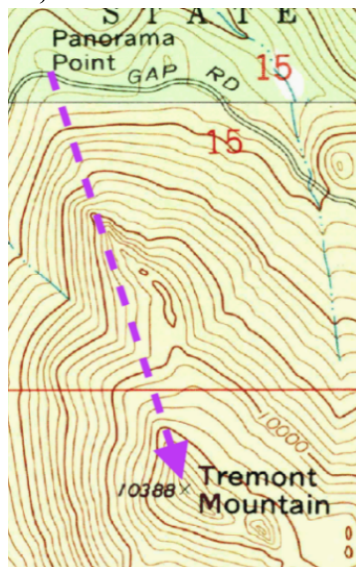
10. As a rule of thumb, hiking off trail is _____ time and effort as hiking on trail.

A. less

B. the same

C. at least twice

11. What is the approximate bearing of the purple arrow from Panorama Point to Tremont Mountain in Golden Gate Canyon State Park, CO?



A. 30° true

B. 70° true

C. 100° true

D. 150° true

12. Your trip leader says the next bearing for the trip is 1.3 miles at a bearing of 347°. What is wrong with this instruction?

A. Compasses don't go up to 347°

B. 1.3 miles is too far to navigate accurately in the backcountry

C. They didn't say if it was N, S, W, SSE, SW, etc.

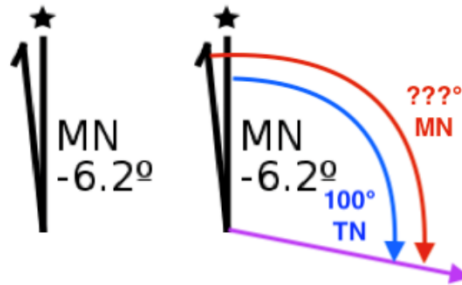
D. They have to include which North they are using - "347° magnetic" or "347° true"

13. The majority of Search and Rescue missions for hikers are for people who got lost while on trail.

A. True

B. False

14. You visit some friends for a hike on the Appalachian Trail in Great Smoky Mountains National Park. The declination marking on your map is current and says roughly 6° WEST (Colorado is EAST). What magnetic bearing on the image is equal to “ 100° true”?



- A. 94° magnetic
 - B. 100° magnetic
 - C. 106° magnetic
 - D. 280° magnetic
15. Why can't you set the declination on your compass permanently, so you never have to do math to convert between true and magnetic north again?
- A. Compasses never have declination adjustments, so it must be done with mental math for every bearing
 - B. Declination varies by location and over time, so you need to decide for each hike how you will manage true and magnetic north
 - C. Declination settings on a compass are notoriously sloppy and change with the slightest bump
 - D. Declination changes significantly over a 10-mile hike in Colorado, so it's easier to adjust the math as you go
16. What direction is 315° ?
- A. North
 - B. Northwest
 - C. Southwest
 - D. South southeast
17. As you leave the trail for a bio break, you check your compass and see you are walking a bearing of 80° magnetic. What bearing should you follow after your bio break to arrive back at the same spot on the trail? Note: you could also walk a back bearing by keeping the white (non-red) end of the compass needle in the shed (orienting arrow).
- A. 80° true
 - B. 180° magnetic
 - C. 260° magnetic
 - D. 280° magnetic
18. A trip has taken longer than expected and you're rushing to get back to the cars before dark. Your trip leader says to follow a bearing of 100° true for 0.8 miles. The setting sun is in your eyes, making it hard to see where to walk. What should you do?
- A. Follow the leader more closely so their body blocks some of the sun
 - B. Count every pace so you make sure you hit 0.8 miles accurately
 - C. Talk to the leader, they may be going the wrong direction
 - D. Pick up the pace so you make it back to the cars before dark

19. You're on a hike and suddenly realize you don't know quite where you are (too soon to use the word "lost"). Select the LEAST useful step for figuring out your location on your map.
- A. Note the intersections with other trails, streams, or roads
 - B. Follow the last bearing on your compass
 - C. Compare the terrain around you with the shape and spacing of the contour lines on your map
 - D. Compare the shape of the trail you're on to the one shown on your map
 - E. Take a bearing on a feature that you can see both in the field and on the map
20. You're on a hike in White Ranch Park, CO and see that a trail junction on your map is 0.5 mile ahead. You've been traveling at about 2 miles per hour. Assuming that trail conditions ahead are the same as what you've just traveled, what's the soonest that you'll reach the junction?
- A. 5 minutes
 - B. 15 minutes
 - C. 30 minutes
 - D. 1 hour

Emergencies Quiz

Senior Instructor: _____

Student: _____

1. **Who is ultimately responsible for your safety and assumed risks on a trip?**
 - A. The person on the trip with the most expertise
 - B. The person who is most confident
 - C. **You are always responsible for your own safety**
 - D. The CMC trip leader
2. **While on a solo hike, you trip and sprain your ankle so badly it can't bear weight. There's no cell service and you haven't seen anyone all day. What should you have done before leaving to ensure help is coming to get you?**
 - A. Packed enough food and water that you can wait until you are found
 - B. Start early in the morning so rescuers have plenty of daylight to find you
 - C. Print a detailed topo map so you can find the shortest route to crawl to the trailhead
 - D. **Left your trip plan with a friend or family member along with instructions of when to call-911**
3. **What is the first action to take when you or your group realize they are lost?**
 - A. Split up and all go in different directions until someone finds the trail
 - B. Return to the trailhead
 - C. **Stop and assess your entire situation**
 - D. Head to a baseline to regain group orientation
4. **What is a good reason to deviate from your trip plan when you can't inform your emergency contact?**
 - A. Trailhead parking is full
 - B. Met someone who is going to a prettier place
 - C. Trail is too muddy
 - D. **In a high-risk situation, like avalanche avoidance or forest fire**
5. **When should you carry a bivy or emergency shelter?**
 - A. **On every hike**
 - B. Only when you think you may have an unplanned night in the backcountry
 - C. Only if the forecast that night is below freezing
 - D. Only if you are the trip leader
6. **Which of these behaviors is best for potentially risky group decisions (e.g. should we cross this snow field, do we like the weather for summiting, is this icy lake safe to cross, etc.)?**
 - A. Holding on to your goal of summiting
 - B. Wanting to impress others in the group
 - C. **Paying attention to your own warning concerns and speaking up**
 - D. Following the most confident and compelling voice
 - E. Deferring to the person with the most expertise
7. **Which has higher priority?**
 - A. Patient safety
 - B. **Your safety**
8. **Which is true about the Incident Manager Role during a backcountry incident?**
 - A. They should assist the First Aid team
 - B. The trip leader always acts as the Incident Manager
 - C. **They should focus on coordinating and communicating between the other roles**

9. Which is true about the First Aid Role during a backcountry incident?

- A. They must be first aid certified
- B. They must be able to treat the patient from memory, no apps or reference information is allowed
- C. They can ask for help from others via the Incident Manager

10. Which is true about the Get Help Role during a backcountry incident?

- A. They ensure they have everything needed before leaving to get help, including patient information, car keys, etc.
- B. They have to hike back to the cars to achieve their mission
- C. They should leave within 5 minutes of the incident occurring to get help as fast as possible

11. Which is true about the Bivy Role during a backcountry incident?

- A. They should start building shelters and gathering food while they wait for more details
- B. They need to provide a recommendation on how many people could safely stay the night
- C. They can go through everyone's backpacks without permission to take inventory

12. In a survival situation, running out of food is more dangerous than running out of water.

- A. True
- B. False

13. You should be more concerned about hypothermia than bear attacks.

- A. True
- B. False

14. Which tool is most useful for getting your exact coordinates in the event of an emergency?

- A. Triangulation off nearby peaks via map and compass
- B. Google or Apple maps on your phone – press on the blue dot that marks your location to see your coordinates
- C. Pacing and bearing from a known point to the location of your emergency
- D. Estimation based on latitude and longitude marks on the map

15. The safest strategy to get away from a fire is:

- A. There's no need to change your route if you see the wind is pushing it away
- B. Stay on a ridge line so you can see the fire
- C. Hike back to the car via the fastest route
- D. Get to the other side of the ridge, away from the fire

16. What should your next step be regarding backcountry First Aid training when you graduate from WTS?

- A. Nothing, WTS has covered all the first aid training you need for day hiking
- B. Take a basic First Aid course since it's the same as Wilderness First Aid
- C. Take a Wilderness First Aid course

17. Should you provide help in an emergency?

- A. NO - you could be liable if the patient has any lasting consequences so leave any help to the professionals
- B. YES - the Colorado Good Samaritan Law provides protection from liability unless the acts or omissions were grossly negligent or willful and wanton

18. What is the best treatment for altitude sicknesses?

- A. Be sure the patient is well-hydrated.
- B. Stop ascending! Descend to lower elevation.
- C. Give the patient easy-to-digest food.
- D. Make the patient sit or lie down and rest.

19. What is a treatment for heat exhaustion?

- A. Swim in an alpine lake
- B. Drink fluids in the shade
- C. Eat easy to digest food
- D. Descend to a lower altitude

20. Your hypothermia patient stopped shivering and has become irrational, so they seem to be getting better overall.

- A. True
- B. False

Snow Travel Quiz

Senior Instructor: _____ Student: _____

1. What is the primary survival strategy with respect to avalanche hazards?
 - A. Wear an airbag pack so you don't get buried
 - B. Don't get caught in one
 - C. Use swimming strokes to stay on top of the avalanche
 - D. Wear an avalanche beacon so rescuers can find you
 - E. Make an air pocket so you can breathe
2. What should your next step be regarding snow travel after you graduate from WTS?
 - A. Buy a beacon, probe, and shovel so you have the gear for backcountry travel in avalanche terrain
 - B. Sign up for Avalanche Terrain Avoidance (ATA) or AIARE 1 to get a deeper knowledge of this challenging topic
 - C. Sign up for any backcountry ski or splitboard trips with CMC since you now understand the risks
3. Which is NOT a significant hazard when traveling in snow?
 - A. Tree wells, where less snow has fallen close to the trunk
 - B. Exposed rocks, where the sun has weakened the nearby snow
 - C. Snow bridges, where you could fall if it breaks
 - D. Bears looking for food, where you are the only food
4. What terrain hazard do these pictures show?



- A. Postholing
 - B. Avalanche chute
 - C. Tree well
 - D. Man-eating tree
5. While traveling in late spring you come across this beautiful view. Is it a frozen lake or a meadow covered in snow?

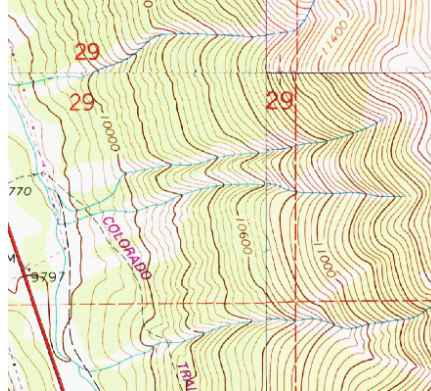


- A. It's so flat it must be a lake
 - B. Tracks indicate it's a meadow
 - C. Better check my topographic map

6. Slopes that are between _____ are the most likely to avalanche.

- A. 15° and 65°
- B. 20° and 70°
- C. 30° and 45°
- D. 50° and 80°

7. What do the vegetation free sections along the streams indicate on the topo map near the Colorado Trail?



- A. Avalanche chutes
- B. Good spots to get water
- C. Sunny winter trails
- D. Black diamond ski runs

8. Which of the following is **NOT** an indicator of higher avalanche risk?

- A. Avalanches nearby in the last 48 hours
- B. Snow loading from new snow or wind in the past 48 hours
- C. Whoomph sound underfoot
- D. Less than 70% of ski runs are open at a nearby resort

9. Which is the most important resource to understand current avalanche conditions for trip planning?

- A. CAIC, Colorado Avalanche Information Center
- B. Alltrails.com for trip reports
- C. Weather.gov for snow and wind forecast
- D. Snow report for a nearby ski resort

10. You can trigger an avalanche even if you're at the bottom of a hill.

- A. True
- B. False

11. If you have complete avalanche knowledge and do everything correctly, you don't have to be concerned about being caught in an avalanche.

- A. True
- B. False

12. Which of the following **INCREASES** risk when hiking in avalanche prone terrain?

- A. Hiking within arms reach of each other so you can assist if an avalanche occurs
- B. Using your clinometer to assess local slope angles
- C. Looking for evidence of avalanche slides in the terrain
- D. Printing a map with color coded slope angles so you know which terrain is more likely to slide