

TREBUCHET Question Sheet

Name: _____

MEDIEVAL ARMS RACE

From the movie, or the from the following link, answer the questions below.

<http://www.pbs.org/wgbh/nova/lostempires/trebuchet/>

1. War in medieval times was about control of _____.
2. What would an attacking medieval army have to launch to take control of castles occupied by knights and soldiers? _____
3. What were the 12th century warfare engineering corps called? _____
4. List five offensive attack methods used in siege warfare?
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
5. Which of these five methods was most dangerous? _____
6. What are two ways castle defenders destroyed siege towers?
 - a. _____
 - b. _____
7. How heavy a missile were medieval trebuchets able to throw? _____
8. What were launched from trebuchets to spread disease in the castle?
 - a. _____
 - b. _____
9. What were battering rams used to break down?
 - a. _____
 - b. _____
10. What were tunnel diggers called? _____
11. What was the function of tunnelling? _____

12. List four methods of castle defense.

- a. _____
- b. _____
- c. _____
- d. _____

13. How many sets of walls did medieval castles have? _____

14. Explain two ways castle archers had a longer range than attacking archers?

15. What two weapons did archers have to choose from?

- a. _____ b. _____

16. Which of these was the most powerful? _____

17. Which of these had the greatest rate of fire? _____

18. What were three defences located in the gatehouse?

- a. _____
- b. _____
- c. _____

19. What structure was located outside the outer wall? _____

HOW IT WORKS

On the **Grey Trebuchet** page, <http://members.iinet.com.au/~rmine/gctrebs.html>, scroll down to "**How do Trebuchets work?**" and answer the following questions.

20. What is the function of the trough? _____

21. What are two advantages of having the arm as close to vertical as is practical when the trigger is pulled?

- a. _____
- b. _____

22. What force acts on the projectile once it leaves the trough?

23. What is the usual sling release method?

Do an internet search to find the answer to the following questions

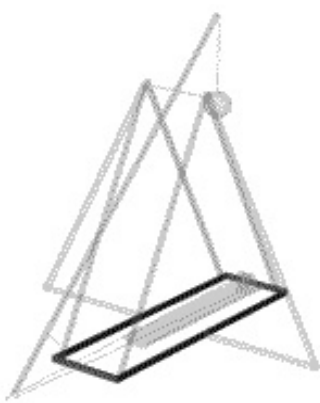
24. Name four different things Hew Kennedy launches with his trebuchet.

- a. _____
- b. _____
- c. _____
- d. _____

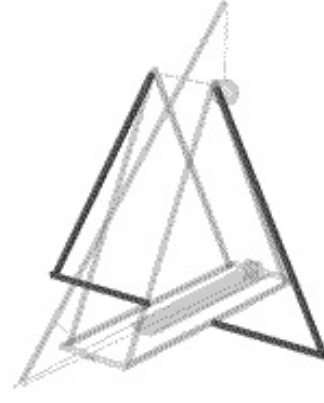
25. What did Hew Kennedy hurl in order to calculate how big the ancient trebuchets actually were?_____

Go to the Internet Archives <http://www.archive.org/index.php> and in the WayBack Machine enter in www.ripcord.ws. Go to the Nomenclature page to answer the following questions.

What is the name of the structure that is darkened below in each drawings?



26 _____ 27 _____ 28 _____



29 _____ 30 _____ 31 _____

Go to **Ripcord's Theory** page for the following:

32. What kind of energy does the counter weight have when the trebuchet is in the cocked position? _____

33. What kind of energy does the counterweight have when it is released and is falling toward the ground? _____

34. What is the difference between static friction and dynamic friction?

35. Which is usually the greatest – static or dynamic friction? _____

36. What is the function of the "dimples" on the surface of the golf ball?

37. If the throwing arm of our trebuchet is 20 inches. How long should the long arm be and how long should the short arm be in order to achieve maximum throwing distance?

Short arm _____, Long arm _____ .

38. How long should the sling be in order to achieve maximum performance?

THEORETICAL RANGE

Use the formula **Range = 2 h (M/m)** Where **h** is the distance the counterweight falls, **M** is the mass of the counterweight, and **m** is the mass of the payload.

39. If a model trebuchet had a counter weight drop of 6 inches (or .5 foot), a counterweight of 10 lbs, and a payload of 0.10 lbs what is the theoretical distance the catapult will throw?

41. How far can we expect them to throw in the "real world?"

42. List 5 factors that may prevent our trebuchets from firing their maximum range.

a) _____

b) _____

c) _____

d) _____

e) _____