

1.2 Suspicious Website Logins

Name: _____ Class: _____ Date: _____

Total: 11 marks

KEY WORDS authentication 身份验证 • password attack 密码攻击 • mfa 多因素身份验证 • password manager 密码管理器 • dictionary 字典

Objective

Build the skills to answer exam questions on **password attacks** 密码攻击 and stronger **authentication** 身份验证.

You must be able to:

- identify signs of an online password attack in a log
- explain why weak, patterned passwords fail
- recommend stronger authentication: long unique passwords and **MFA** 多因素身份验证

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Signs in the log

An online password attack shows many failed logins in a short time, logins at unusual hours, or logins from unknown devices.

■ Making authentication stronger

Use long, random, unique passwords (a password manager helps), avoid names and dates, and enable multifactor authentication so a stolen password alone is not enough.

2 Practice

2.1 State two signs, visible in a log, of an online password attack. [2]

2.2 Explain why a password like **Summer2024!** is weak. [2]

2.3 State two ways to make authentication stronger.

[2]

3 Exam-style questions

3.1 Which log pattern most strongly suggests an online password attack?

[1]

- **A** one successful login
 - **B** many failed logins in a short time
 - **C** a file download
 - **D** a printer coming online
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3.2 Which is the strongest password?

[1]

- **A** your dog's name
 - **B** P@ssword!
 - **C** a 16-character random string
 - **D** your birthday
-

3.3 A company wants to reduce account takeovers.

(a) Name one authentication improvement they could require.

[1]

(b) Explain how it helps even if a password is stolen.

[2]

Solutions

2.1 any two of: many failed logins in a short time; logins at unusual hours; logins from unknown devices.

2.2 it follows a common pattern - word + year + symbol - that an adversary's dictionary of guesses expects.

2.3 any two of: use long/random/unique passwords; use a password manager; enable MFA.

3.1 B. a burst of failed logins signals guessing.

3.2 C. long + random + unique beats any pattern.

3.3 (a) multifactor authentication / MFA. (b) MFA needs a second factor, so a stolen password alone cannot log in.