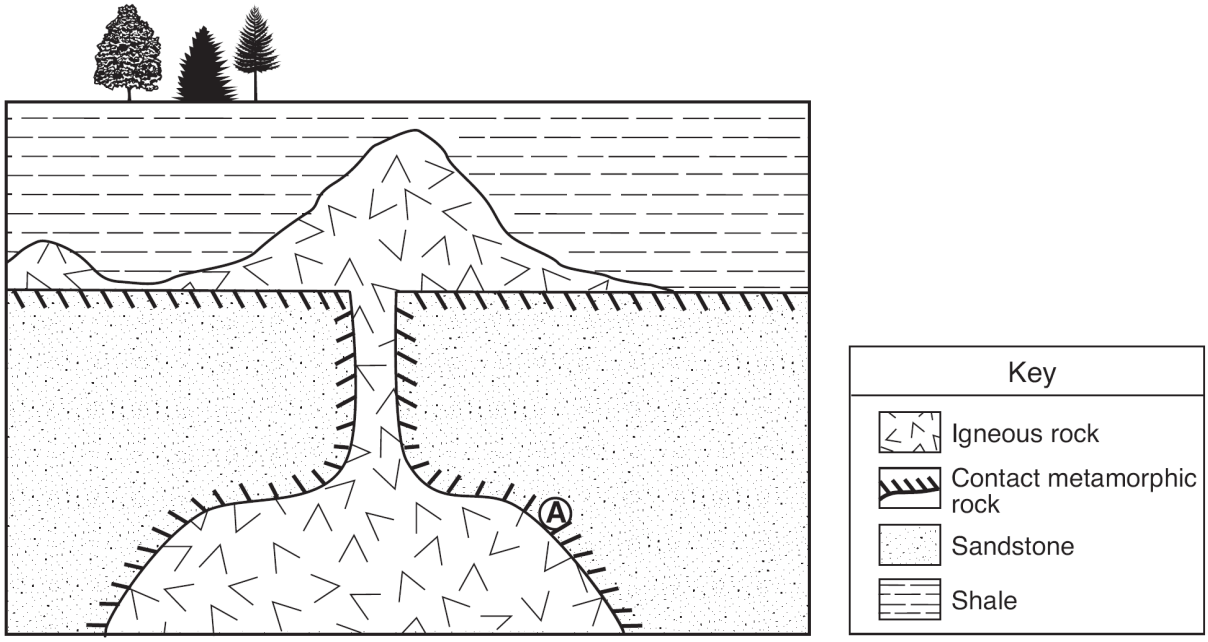
Name: _____ **Pd.** _____

ESS Metamorphic Rocks

____ 1. Base your answer to the following question on the geologic cross section below. Location *A* is within the metamorphic rock.



The metamorphic rock at location *A* is most likely

(A) slate (B) marble (C) quartzite (D) phyllite

____ 2. Which rock is only formed by regional metamorphism?

(A) marble (B) dunite
(C) slate (D) hornfels

____ 3. Wavy bands of light and dark minerals visible in gneiss bedrock probably formed from the

(A) heat and pressure during metamorphism
(B) evaporation of an ancient ocean
(C) cooling and crystallization of magma
(D) cementing together of individual miner grains

____ 4. Which sedimentary rock is most likely to be changed to slate during regional metamorphism?

(A) conglomerate (B) dolostone
(C) breccia (D) shale

____ 5. The rock shown below has a foliated texture and contains the minerals amphibole, quartz, and feldspar arranged in coarse-grained bands.

Which rock is shown?

(A) gneiss (B) slate
(C) quartzite (D) dunite

____ 6. Which physical characteristic best describes the rock phyllite?

(A) clastic texture with angular fragments
(B) bioclastic texture with cemented shell fragments
(C) glassy texture with gas pockets
(D) foliated texture with microscopic mica crystals

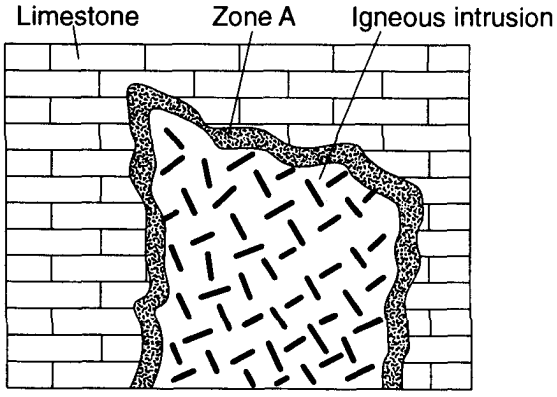
___ 7. Which rock is foliated, shows mineral alignment but not banding, and contains medium-sized grains of quartz and pyroxene?

(A) phyllite (B) schist
(C) gneiss (D) quartzite

___ 8. Which sequence of change in rock type occurs as shale is subjected to increasing heat and pressure?

(A) shale → gneiss → phyllite → schist → slate
(B) shale → gneiss → phyllite → slate → schist
(C) shale → schist → phyllite → slate → gneiss
(D) shale → slate → phyllite → schist → gneiss

___ 9. The geologic cross section below shows limestone that was intruded. Part of the limestone (zone A) was heated intensely but was not melted.



Which type of rock most likely formed in zone *A*?

(A) slate (B) obsidian
(C) gneiss (D) marble

___ 10. The cartoon below presents a humorous look at history.

"You know, I like this hobby, too... But it seems like people from other communities have collected all the shiny mica rocks with foliated textures...There aren't any left for us!"

What kind of rocks does the complaining rock collector want?

(A) inorganic sedimentary rocks
(B) clastic sedimentary rocks
(C) felsic volcanic rocks
(D) regionally metamorphosed rocks