

## Bonuses

## \*1. Science

Identify the common scientific term, 30-20-10.

30: In mathematics, it refers to the operation of finding the set of all vectors that can be formed as linear combinations of vectors which are elements of a subset of a vector space.

20: In architectural design, it refers to the extent of a raised structure between its abutments or supports.

10: As a unit of measurement, it is equivalent to one-eighth of a fathom, or nine inches.

ANSWER: \_SPAN\_ (ACC: \_SPANNING\_ on 30 only)

## 2. Science

Answer the following questions, FTPE.

(a) What is the term given to a topological space with a family of local coordinate systems related to each other by coordinate transformations, occurring in differential equations and classical dynamics?

ANSWER: \_MANIFOLD\_

(b) These terrestrial, free-standing plants are the most important flowering plants because of their nutritious grains and are the most widespread of all plants. Identify these plants, which belong to the Poaceae, Gramineae, Ceperaceae, or Juncaceae families.

ANSWER: \_GRASS\_ (acc: \_GRASSES\_)

(c) The melting point of the solid form of this substance decreases as pressure increases from 100 to 200,000 kilopascals. Additional solid states do not occur until the pressure reaches over 2,000,000 kilopascals, but gaseous states cannot occur once the pressure exceeds 21,800 kilopascals.

ANSWER: \_WATER\_

## 3. Science

Identify the following inventors FTPE.

(a) Employed by Governor Stanford of California to prove that in mid-gallop a horse lifts all four hooves off the ground at the same time, he set up a battery of cameras to record successive images, which later produced a "moving picture" of real-life events; a discovery which led to the development of the motion picture.

ANSWER: Eadweard \_MUYBRIDGE\_

(b) Working as a professor of experimental physics at Cambridge, this man proved mathematically in 1864 that electrical disturbances which created magnetic fields could be detected at considerable distances, and would propagate at the speed of light.

ANSWER: James Clerk \_MAXWELL\_

(c) Contrary to popular myths, this man never married. Working in America from 1851 to 1855 under the builder of the Monitor, he discovered ballistite, but could not convince courts that his patent also covered the discovery of cordite.

ANSWER: Alfred Bernhard \_NOBEL\_

[The myth is that there is no Nobel prize in Mathematics because Nobel caught his wife in bed with a mathematician.]

## 4. Science

Name the following celestial bodies FTPE.

(a) Discovered in 1851 by William Lassell, but perhaps sighted by a Russian-born astronomer in 1847, this satellite of Uranus has a period of approximately 2.5 days.

ANSWER: \_ARIEL\_

(b) A predominantly rocky satellite with a small component of ice or water, it was observed by both Voyager 1 and 2. Its most striking feature is the criss-crossing of linear features, some of which stretch for thousands of kilometers on the surface of this moon, first discovered in 1610.

ANSWER: \_EUROPA\_

(c) In mythology, she was the grandmother of Apollo and Artemis; her name denotes brightness. However, as an astronomical body, the outermost known satellite of Saturn, the name seems somewhat paradoxical.

ANSWER: \_PHOEBE\_

## 5. Literature

Identify the following poets FTPE.

(a) An engraver's apprentice, he claimed to have seen in a vision of his dead brother the technique of "illuminated printing," but is much better known today for works such as "The Marriage of Heaven and Hell."

ANSWER: William \_BLAKE\_

(b) Also noted for his work as composer and physician, this seventeenth-century poet advocated the use of unrhymed verse in his "Observations in the Art of English Poesie [POH-uh-zee]," but put this theory to practice only in the lyric "Rose-cheekt Lawra, Come."

ANSWER: Thomas \_CAMPION\_

(c) In 1499, Erasmus described this poet, the author of works such as "The Tunning of Elinor Rummyng" and "The Book of Philip Sparrow", as "the incomparable light and glory of English letters."

ANSWER: John \_SKELTON\_

## 6. Literature

Identify the following literary works from their closing lines FTPE.

(a) "Let all the world in ev'ry corner sing, My God and King."

ANSWER: \_ANTIPHON\_ (by George Herbert)

(b) "What of my dross thou findest there, be bold / To throw away, but yet preserve the gold; / What if my gold be wrapped up in ore?-- / None throws away the apple for the core. / But if thou shalt cast all away as vain, / I know not but 'twill make me dream again."

ANSWER: The \_PILGRIM'S PROGRESS\_ [from this world to that which is to come, delivered under the similitude of a dream]

(c) "No man at all can be living forever, and we must be satisfied."

ANSWER: \_RIDERS TO THE SEA\_

## 7. Literature

Identify the writer from works, 30-20-10.

30: "Salut au Monde," "City of Orgies"

20: "Beat! Beat! Drums!", "Sea-Drift"

10: "Out of the Cradle Endlessly Rocking", "Chants Democratic"

ANSWER: Walt(er) \_WHITMAN\_

## 8. Literature

Complete the following quotes, FTPE. Hint: each of the answers can be considered a place.

(a) "To where for me, the apple tree do lean down low in . . ."

ANSWER: \_LINDEN LEA\_

(b) "But me and my true love will never meet again, by the bonny bonny banks of . . ."

ANSWER: \_LOCH LOMOND\_

(c) "Darest thou now, O Soul, walk out with me toward . . ."

ANSWER: \_THE UNKNOWN REGION\_

## 9. History

Identify the year, 30-20-10.

30: Oscar II was crowned king of Sweden and Norway in this year.

20: King Kamehameha V of Hawaii died in this year.

10: Horace Greeley lost to Ulysses S. Grant in the presidential election this year, the year after the Paris Commune.

ANSWER: \_1872\_

## 10. History

Identify the following historical figures for 15 points each.

(a) This craftsman was well known in England for his research into materials to be used for the construction of pottery, and was the principal designer of the style that became known as "Queen's ware." He was commended as a fellow of the Royal Society for his invention of the pyrometer.

ANSWER: Josiah \_WEDGWOOD\_

(b) A grandson of Wedgwood, this man initiated the field of child study as a scientific discipline with observations of his own children, beginning in 1840. He also made contributions to fields as diverse as animal intelligence and cross- and self-fertilization of plants.

ANSWER: Charles \_DARWIN\_

## 11. History

Answer the following questions about France during the first World War FTPE.

(a) At the beginning of the war, this commander-in-chief of the French military forces was given carte blanche to conduct the war as he saw fit. His popularity ebbed as the war wore on, and he was finally replaced in late 1916.

ANSWER: General Joseph \_JOFFRE\_

(b) This man was appointed Supreme Commander of the French and British troops in March 1918, and it was his railway car in which the armistice ending the war with Germany was signed.

ANSWER: General Ferdinand \_FOCH\_

(c) President of France throughout the war, illness forced him from politics altogether in 1929. After that time, he wrote his ten-volume memoirs, "Au Service de la France."

ANSWER: Raymond \_POINCARRE\_

## 12. History

Given the historical details of three famous cathedrals and their towns, name those towns FTPE.

(a) A new cathedral was begun here in 983; yet another was begun by Bishop Wulfstan in 1084. The choir and Lady Chapel were begun in 1224. The town was the site in 1651 of the final battle of the English Civil Wars.

ANSWER: \_WORCESTER\_

(b) Located on the River Severn west of the Cotswolds and the capital of the Anglo-Saxon kingdom of Mercia, its cathedral was begun in the year 1100, and became seat of a bishopric in 1541.

ANSWER: \_GLOUCESTER\_

(c) Its cathedral exemplifies architectural styles as diverse as

Norman and Perpendicular, and was reconstructed between 1012 and 1052. The town was noted by a thriving wool trade between the thirteenth and sixteenth centuries.

ANSWER: HEREFORD

13. Fine Arts

Identify the authors of the following works for the stated number of points. [Hint: all the works have a common feature, and point value does not necessarily indicate difficulty.]

5: Atalanta in Calydon

ANSWER: Sir Granville BANTOCK

10: Kolokola

ANSWER: Sergei RACHMANINOV

5: Symphony No. 8 in E flat minor, popular title Symphony of a Thousand

ANSWER: Gustav MAHLER

10: A Sea Symphony

ANSWER: Ralph VAUGHAN WILLIAMS (DNA,DNP: "Williams"; ACC: Howard HANSON grudgingly)

[The common link is that all are symphonies that include a chorus.]

14. Fine Arts

Given a ballet, name its choreographer, F15PE.

(a) Daphnis et Chloe

ANSWER: Mikhail FOKINE (DNA: DIAGHLIEV; he was the financier, not choreographer)

(b) La Valse

ANSWER: Bronislava NIJINSKA

15. R/M/P

Identify these seemingly unrelated religious figures from clues.

(a) Patron saint of an order of nuns dedicated to the education of girls, she is reported to have been a British princess slain by Huns while returning from a pilgrimage to Rome.

ANSWER: Saint URSULA

(b) An Edomite, this Hebrew prophet is tormented by the Devil with God's permission to determine if his piety is derived from true belief or mere self-interest.

ANSWER: JOB

(c) In the final chapter of Revelation, John believes that he hears Jesus Christ identify himself as this, a name more commonly applied to the Devil.

ANSWER: the bright and the MORNING STAR

16. R/M/P

Identify the following mythological figures, FTPE.

(a) The Greek god of marriage, by some accounts he was the son of Dionysus and Aphrodite and by others that of Apollo and Calliope. In Attic legends, he obtained the hand in marriage of the woman he loved after rescuing her from pirates; their happy marriage caused him to be invoked in marriage songs thereafter.

ANSWER: HYMEN (ACC: HYMENAEUS)

(b) Depicted in Roman mythology as a female guardian angel, she also was known as Moneta, "the Warner."

ANSWER: JUNO

(c) A variant of the Wild Huntsman myth, this phantom inhabited the Great Park of Windsor, and is impersonated by Falstaff in "The Merry Wives of Windsor."

ANSWER: HERNE the Hunter

17. Social Sciences

Identify the following "-isms," FTPE.

(a) A state of mind in which an individual feels all people owe supreme secular loyalties to the state.

ANSWER: NATIONALISM

(b) An economic system which relies predominantly on agriculture for subsistence, it has been associated with various pagan gods and shares its name with a literary movement.

ANSWER: PASTORALISM

(c) The doctrine that man cannot know the existence of anything beyond the experiences and surroundings of his own existence.

ANSWER: AGNOSTICISM

[NOTE TO EDITOR: Can the fact that all the "isms" are eleven letters long be used here to "throw a wrench" into the works?]

18. Geography

Given the rivers, name the country in which you will find them, FTPE.

(a) Dee and Wye

ANSWER: UNITED KINGDOM (ACC: WALES)

(b) Arve (AHRV) and Vienne (VEE-enn)

ANSWER: FRANCE

(c) Palar (Puh-LAR) and Cauvery

ANSWER: INDIA

19. General Knowledge

Answer the following questions about recording technology.

(a) What physical law, which states that the electrical potential induced in the coil of magnetic pickup is proportional to the magnetic field of a moving magnet and inversely proportional to the period of the oscillation, creates the need for equalization in phonographic recordings?

ANSWER: Faraday's LAW OF MAGNETIC INDUCTION

(b) Within one year, in what year was the first stereophonic recording introduced?

ANSWER: 1958 (ACC: 1957 or 1959 also)

(c) This term is given to a narrow band recording whose encoded data is reproduced by a beam of light activating a loudspeaker through an amplifier.

ANSWER: SOUND-TRACK

20. Sports

Identify the sport, 30-20-10.

30: The first known record of this sport dates to 25th century BC Egyptian records, and the Japanese made training in this sport compulsory long before the Meiji Restoration and contact with the West.

20: The first governing body for this sport in the United States was the Amateur Athletic Union, which recognized it at its founding in 1888. Early international competitions in this sport included obstacle races and pole climbing.

10: The present international governing body for this sport is the Fe'de'ration Internationale de Natation Amateur, or FINA.

ANSWER: SWIMMING

1. Identify the following poets FTPE.

(a) An engraver's apprentice, he claimed to have seen in a vision of his dead brother the technique of "illuminated printing," but is much better known today for works such as "The Marriage of Heaven and Hell."

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(b) Also noted for his work as composer and physician, this seventeenth-century poet advocated the use of unrhymed verse in his "Observations in the Art of English Poesie [POH-uh-zee]," but put this theory to practice only in the lyric "Rose-cheek'd Lawra, Come."

ANSWER: Thomas CAMPION

(c) In 1499, Erasmus described this poet, the author of works such as "The Tunning of Elinor Rumming" and "The Book of Philip Sparrow", as "the incomparable light and glory of English letters."

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ANSWER: The PILGRIM'S PROGRESS [from this world to that which is to come, delivered under the similitude of a dream]

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(b) A predominantly rocky satellite with a small component of ice or water, it was observed by both Voyager 1 and 2. Its most striking feature is the criss-crossing of linear features, some of which stretch for thousands of kilometers on the surface of this moon, first discovered in 1610.

ANSWER: EUROPA

(c) In mythology, she was the grandmother of Apollo and Artemis; her name denotes brightness. However, as an astronomical body, the outermost known satellite of Saturn, the name seems somewhat paradoxical.

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ANSWER: SPAN (ACC: SPANNING on 30 only)

9. Identify the following inventors FTPE.

(a) Employed by Governor Stanford of California to prove that in mid-gallop a horse lifts all four hooves off the ground at the same time, he set up a battery of cameras to record successive images, which later produced a "moving picture" of real-life events; a discovery which led to the development of the motion picture.

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ANSWER: James Clerk MAXWELL

(c) Contrary to popular myths, this man never married. Working in America from 1851 to 1855 under the builder of the Monitor, he discovered ballistite, but could not convince courts that his patent also covered the discovery of cordite.

ANSWER: Alfred Bernhard NOBEL

[The myth is that there is no Nobel prize in Mathematics because Nobel caught his wife in bed with a mathematician.]

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local coordinate systems related to each other by coordinate transformations, occurring in differential equations and classical dynamics?

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(b) These terrestrial, free-standing plants are the most important flowering plants because of their nutritious grains and are the most widespread of all plants. Identify these plants, which belong to the Poaceae, Gramineae, Ceperaceae, or Juncaceae families.

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(c) The melting point of the solid form of this substance decreases as pressure increases from 100 to 200,000 kilopascals. Additional solid states do not occur until the pressure reaches over 2,000,000 kilopascals, but gaseous states cannot occur once the pressure exceeds 21,800 kilopascals.

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ANSWER: WORCESTER

(b) Located on the River Severn west of the Cotswolds and the capital of the Anglo-Saxon kingdom of Mercia, its cathedral was begun in the year 1100, and became seat of a bishopric in 1541.

ANSWER: \_GLOUCESTER\_

(c) Its cathedral exemplifies architectural styles as diverse as Norman and Perpendicular, and was reconstructed between 1012 and 1052. The town was noted by a thriving wool trade between the thirteenth and sixteenth centuries.

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ANSWER: \_HYMEN\_ (ACC: \_HYMENAEUS\_)

(b) Depicted in Roman mythology as a female guardian angel, she also was known as Moneta, "the Warner."

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(c) A variant of the Wild Huntsman myth, this phantom inhabited the Great Park of Windsor, and is impersonated by Falstaff in "The Merry Wives of Windsor."

ANSWER: \_HERNE\_ the Hunter

15. Given a ballet, name its choreographer, F15PE.

(a) Daphnis et Chloe

ANSWER: Mikhaïl \_FOKINE\_ (DNA: DIAGHLIEV; he was the financier, not choreographer)

(b) La Valse

ANSWER: Bronislava \_NIJINSKA\_

16. Identify the authors of the following works for the stated number of points. [Hint: all the works have a common feature, and point value does not necessarily indicate difficulty.]

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ANSWER: Sir Granville \_BANTOCK\_

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(b) An economic system which relies predominantly on agriculture for subsistence, it has been associated with various pagan gods and shares its name with a literary movement.

ANSWER: \_PASTORALISM\_

(c) The doctrine that man cannot know the existence of anything beyond the experiences and surroundings of his own existence.

ANSWER: \_AGNOSTICISM\_

19. Identify the year, 30-20-10.

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10: Horace Greeley lost to Ulysses S. Grant in the presidential election this year, the year after the Paris Commune.

ANSWER: \_1872\_

20. Answer the following questions about recording technology, FTPE.

(a) What physical law, which states that the electrical potential induced in the coil of magnetic pickup is proportional to the magnetic field of a moving magnet and inversely proportional to the period of the oscillation, creates the need for equalization in phonographic recordings?

ANSWER: Faraday's \_LAW OF MAGNETIC INDUCTION\_

(b) Within one year, in what year was the first stereophonic recording introduced?

ANSWER: \_1958\_ (ACC: \_1957\_ or \_1959\_ also)

(c) This term is given to a narrow band recording whose encoded data is reproduced by a beam of light activating a loudspeaker through an amplifier.

ANSWER: \_SOUND-TRACK\_